```
=> e andersen peter/au
E1            9     ANDERSEN PERNILLE/AU
E2            1     ANDERSEN PETE/AU
E3          371 --> ANDERSEN PETER/AU
E4            6     ANDERSEN PETER A/AU
E5            1     ANDERSEN PETER ANDREAS/AU
E6            5     ANDERSEN PETER B/AU
E7           62     ANDERSEN PETER C/AU
E8            1     ANDERSEN PETER CHRISTIAN/AU
E9            3     ANDERSEN PETER CRAIG/AU
E10          65     ANDERSEN PETER E/AU
E11           2     ANDERSEN PETER ESKIL/AU
E12           1     ANDERSEN PETER ESKILD/AU

=> s e3-e12 and tuberculosis
L1          275 ("ANDERSEN PETER"/AU OR "ANDERSEN PETER A"/AU OR "ANDERSEN PETER
                ANDREAS"/AU OR "ANDERSEN PETER B"/AU OR "ANDERSEN PETER C"/AU
                OR "ANDERSEN PETER CHRISTIAN"/AU OR "ANDERSEN PETER CRAIG"/AU OR
                "ANDERSEN PETER E"/AU OR "ANDERSEN PETER ESKIL"/AU OR "ANDERSEN
                PETER ESKILD"/AU) AND TUBERCULOSIS

=> s l1 and (RD1-orf3)
L2            9 L1 AND (RD1-ORF3)

=> dup rem l2
PROCESSING COMPLETED FOR L2
L3            6 DUP REM L2 (3 DUPLICATES REMOVED)

=> d bib ab 1-
YOU HAVE REQUESTED DATA FROM 6 ANSWERS - CONTINUE? Y/(N):y


L3   ANSWER 1 OF 6  CAPLUS  COPYRIGHT 2006 ACS on STN  DUPLICATE 1
AN   2004:490265  CAPLUS
DN   141:52841
TI   Cloning and characterization of genes encoding culture filtrate antigens
     involved in protective immunity to M. tuberculosis, and use
     thereof as vaccines and in diagnosis
IN   Andersen, Peter; Skiot, Rikke; Oettinger, Thomas; Rasmussen,
     Peter Birk; Rosenkrands, Ida; Weldingh, Karin; Florio, Walter
PA   Den.
SO   U.S. Pat. Appl. Publ., 109 pp., Cont.-in-part of U.S. 6,641,814.
     CODEN: USXXCO
DT   Patent
LA   English
FAN.CNT 10
     PATENT NO.          KIND   DATE        APPLICATION NO.         DATE
     ---------------     ----   --------    --------------------    --------
PI   US 2004115211        A1    20040617    US 2003-620246          20030715
     US 6641814           B1    20031104    US 1998-50739           19980330
     EP 1449922           A2    20040825    EP 2004-76605           19980401
     EP 1449922           A3    20041117
          R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
              IE, FI, CY
PRAI DK 1997-376          A     19970402
     US 1997-44624P       P     19970418
     DK 1997-1277         A     19971110
     US 1998-70488P       P     19980105
     US 1998-50739        A2    19980330
     DK 1998-1281         A     19981008
     EP 1998-913536       A3    19980401
AB   The present invention is based on the identification and characterization
     of a number of M. tuberculosis derived antigens, isolated from
     culture filtrates of T cells from memory immune mice by T cell epitope
     mapping.  The invention is directed to the polypeptides and immunol.
     active fragments thereof, the genes encoding them, immunol. compns. such
     as vaccines and skin test reagents containing the polypeptides.  Another part
     of the invention is based on the surprising discovery that fusions between
     ESAT-6 and MPT59 are superior immunogens compared to each of the unfused
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proteins, resp. These antigens are suitable for use in vaccines and in diagnosis of infections.

L3 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 2
AN 2003:696302 CAPLUS
DN 139:229237
TI Protein and DNA sequences of antigens from Mycobacterium and uses in **tuberculosis** diagnosis and treatment
IN **Andersen, Peter**; Weldingh, Karin; Hansen, Christina Veggerby; Florio, Walter; Okkels, Li Mei Meng; Skjot, Rikke Louise Vinther; Rasmussen, Peter Birk
PA Statens Serum Institut, Den.
SO U.S. Pat. Appl. Publ., 53 pp., Cont.-in-part of U.S. Ser. No. 60,428.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 10

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003165525	A1	20030904	US 2002-138473	20020502
	US 6982085	B2	20060103		
	US 6641814	B1	20031104	US 1998-50739	19980330
	EP 1449922	A2	20040825	EP 2004-76605	19980401
	EP 1449922	A3	20041117		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
	US 2002094336	A1	20020718	US 2001-791171	20010220
PRAI	DK 1997-376	A	19970402		
	US 1997-44624P	P	19970418		
	DK 1997-1277	A	19971110		
	US 1998-70488P	P	19980105		
	US 1998-50739	A2	19980330		
	DK 1998-1281	A	19981008		
	US 2001-791171	B2	20010220		
	US 2002-60428	A2	20020129		
	EP 1998-913536	A3	19980401		

AB The present invention is based on the identification and characterization of 9 antigens, including Rv0652/CFP16, Rv2462c/TB51, Rv1984c/CFP21, Rv2185c/TB16, Rv1636/TB15A, Rv3451/CFP23, Rv3872/**RD1**-**ORF3**, Rv3354/CFP8A and Rv2623/TB32, from Mycobacterium **tuberculosis**. The invention is directed to the polypeptides and immunol. active fragments thereof, the genes encoding them, immunol. compns. such as diagnostic reagents containing the polypeptides. The invention related to diagnosing **tuberculosis** caused by virulent mycobacteria, e.g. by Mycobacterium **tuberculosis**, Mycobacterium africanum or Mycobacterium bovis, in an animal, including a human being. The invention related to treating **tuberculosis** using antigens isolated from Mycobacterium **tuberculosis**.

L3 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 3
AN 2003:609858 CAPLUS
DN 139:163576
TI Mycobacterium **tuberculosis** antigens for diagnosis, prevention and treatment of infections caused by species of the **tuberculosis** complex
IN **Andersen, Peter**; Skjot, Rikke Louise Vinther
PA Den.
SO U.S. Pat. Appl. Publ., 135 pp., Cont.-in-part of U.S. Ser. No. 289,388, abandoned.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 10

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003147897	A1	20030807	US 2001-804980	20010313
	US 6991797	B2	20060131		
	WO 9501441	A1	19950112	WO 1994-DK273	19940701
	W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB,				

GE, HU, JP, KE, KG, KP, KR, KZ, LK, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

EP 1508339	A1	20050223	EP 2004-77505		19940701
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI					
US 5955077	A	19990921	US 1995-465640		19950605
US 6641814	B1	20031104	US 1998-50739		19980330
EP 1449922	A2	20040825	EP 2004-76605		19980401
EP 1449922	A3	20041117			
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY					
US 2002094336	A1	20020718	US 2001-791171		20010220
US 2004013685	A1	20040122	US 2001-872505		20010601
PRAI DK 1993-798	A	19930702			
US 1993-123182	B2	19930920			
WO 1994-DK273	A2	19940701			
US 1995-465640	A1	19950605			
DK 1997-376	A	19970402			
US 1997-44624P	P	19970418			
DK 1997-1277	A	19971110			
US 1998-70488P	P	19980105			
US 1998-50739	A3	19980330			
US 1998-246191	A2	19981230			
US 1999-289388	B2	19990412			
US 2001-791171	A2	20010220			
EP 1994-919574	A3	19940701			
EP 1998-913536	A3	19980401			
DK 1999-1020	A	19990713			
US 1999-144011P	P	19990715			
US 2000-615947	A2	20000713			
WO 2000-DK398	A2	20000713			
US 2001-804980	A2	20010313			

AB The present invention is based on the identification and characterization of a number of novel M. **tuberculosis** derived proteins and protein fragments, e.g. TB10.3 (ORF7-1 or Rv3019c), TB10.4 (CFP7 or Rv0288) and TB12.9 (ORF7-2 or Rv3017c), ESAT-6, MPT64, CFP10, RD1-ORF5, RD1-ORF2, Rv1036, Ag85A, Ag85B, Ag85C, 19 kDa lipoprotein, MPT32, MPB59 and α-crystallin. The invention is directed to the polypeptides and immunol. active fragments thereof, the genes encoding them, immunol. compns. such as vaccines and skin test reagents containing the polypeptides.

L3 ANSWER 4 OF 6 USPATFULL on STN
AN 2003:291011 USPATFULL
TI Nucleic acids fragments and polypeptide fragments derived from M. **tuberculosis**
IN **Andersen, Peter**, Br.o slashed.nsh.o slashed.j, DENMARK
Nielsen, Rikke, Frederiksberg, DENMARK
Oettinger, Thomas, Hellerup, DENMARK
Rasmussen, Peter Birk, K.o slashed.benhaven, DENMARK
Rosenkrands, Ida, K.o slashed.benhaven, DENMARK
Weldingh, Karin, K.o slashed.benhaven, DENMARK
Florio, Walter, Frederiksberg, DENMARK
PA Statens Serum Institut, Copenhagen, DENMARK (non-U.S. corporation)
PI US 6641814 B1 20031104
AI US 1998-50739 19980330 (9)
PRAI DK 1997-376 19970402
US 1997-44624P 19970418 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Swartz, Rodney P
LREP Frommer Lawrence & Haug, Kowalski, Thomas J.
CLMN Number of Claims: 43
ECL Exemplary Claim: 1
DRWN 6 Drawing Figure(s); 6 Drawing Page(s)
LN.CNT 5870
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is based on the identification and

characterization of a number of M. **tuberculosis** derived novel proteins and protein fragments (SEQ ID NOs: 2, 4, 6, 8, 10, 12, 14, 16, 17-23, 42, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72-86, 88, 90, 92, 94, 141, 143, 145, 147, 149, 151, 153, and 168-171). The invention is directed to the polypeptides and immunologically active fragments thereof, the genes encoding them, immunological compositions such as vaccines and skin test reagents containing the polypeptides. Another part of the invention is based on the surprising discovery that fusions between ESAT-6 and MPT59 are superior immunogens compared to each of the unfused proteins, respectively.

L3 ANSWER 5 OF 6 USPATFULL on STN
AN 2002:178550 USPATFULL
TI Nucleic acid fragments and polypeptide fragments derived from M. **tuberculosis**
IN **Andersen, Peter**, Bronshoj, DENMARK
Nielsen, Rikke, Frederiksberg C, DENMARK
Oettinger, Thomas, Hellerup, DENMARK
Rasmussen, Peter Birk, Kobenhaven O, DENMARK
Rosenkrands, Ida, Kobenhaven O, DENMARK
Weldingh, Karin, Kobenhaven N, DENMARK
Florio, Walter, Frederiksberg C, DENMARK
PA STATENS SERUM INSTITUT (non-U.S. corporation)
PI US 2002094336 A1 20020718
AI US 2001-791171 A1 20010220 (9)
RLI Division of Ser. No. US 1998-50739, filed on 30 Mar 1998, PENDING
PRAI DK 1997-376 19970402
DK 1997-1277 19971110
US 1997-44624P 19970418 (60)
US 1998-70488P 19980105 (60)
DT Utility
FS APPLICATION
LREP FROMMER LAWRENCE & HAUG LLP, 745 FIFTH AVENUE, NEW YORK, NY, 10151
CLMN Number of Claims: 53
ECL Exemplary Claim: 1
DRWN 6 Drawing Page(s)
LN.CNT 6134
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is based on the identification and characterization of a number of M. **tuberculosis** derived novel proteins and protein fragments (SEQ ID NOs: 2, 4, 6, 8, 10, 12, 14, 16, 17-23, 42, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72-86, 88, 90, 92, 94, 141, 143, 145, 147, 149, 151, 153, and 168-171). The invention is directed to the polypeptides and immunologically active fragments thereof, the genes encoding them, immunological compositions such as vaccines and skin test reagents containing the polypeptides. Another part of the invention is based on the surprising discovery that fusions between ESAT-6 and MPT59 are superior immunogens compared to each of the unfused proteins, respectively.

L3 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1998:684968 CAPLUS
DN 129:300060
TI Novel antigens of Mycobacterium **tuberculosis** culture filtrates and the genes encoding and their diagnostic and prophylactic use
IN **Andersen, Peter**; Nielsen, Rikke; Rosenkrands, Ida; Weldingh, Karin; Rasmussen, Peter Birk; Oettinger, Thomas; Florio, Walter
PA Statens Serum Institut, Den.
SO PCT Int. Appl., 264 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 10

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9844119	A1	19981008	WO 1998-DK132	19980401
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX,				

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            NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT,
            UA, UG, US, UZ, VN, YU, ZW
        RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,
            FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,
            CM, GA, GN, ML, MR, NE, SN, TD, TG
     CA 2285625            AA    19981008    CA 1998-2285625        19980401
     AU 9868204            A1    19981022    AU 1998-68204          19980401
     AU 740545             B2    20011108
     EP 972045             A1    20000119    EP 1998-913536         19980401
        R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
            IE, FI
     JP 2001515359         T2    20010918    JP 1998-541074         19980401
     EP 1449922            A2    20040825    EP 2004-76605          19980401
     EP 1449922            A3    20041117
        R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
            IE, FI, CY
     CA 2319380            AA    19990520    CA 1998-2319380        19981008
     WO 9924577            A1    19990520    WO 1998-DK438          19981008
        W:  AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE,
            DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE,
            KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW,
            MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR,
            TT, UA, UG, US, UZ, VN, YU, ZW
        RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,
            FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,
            CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
     EP 1029053            A1    20000823    EP 1998-947412         19981008
        R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
            IE, FI
     NZ 504951             A     20010629    NZ 1998-504951         19981008
     AU 750173             B2    20020711    AU 1998-94338          19981008
     EP 1484405            A1    20041208    EP 2004-77071          19981008
        R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
            IE, FI, CY
PRAI DK 1997-376           A     19970402
     US 1997-44624P        P     19970418
     DK 1997-1277          A     19971110
     US 1998-70488P        P     19980105
     EP 1998-913536        A3    19980401
     WO 1998-DK132         W     19980401
     EP 1998-947412        A3    19981008
     WO 1998-DK438         W     19981008
AB   Culture filtrate antigens of Mycobacterium tuberculosis are
     characterized and cDNAs encoding them are cloned.  Some of the proteins
     are antigenic and suitable for use in vaccines and in diagnosis of
     infections, e.g. skin tests.  A fusion protein of two of these antigens is
     a superior immunogen compared to the unfused proteins.  Individual
     antigens from culture filtrates were identified by T cell mapping using T
     cells from memory immune mice.  Genes for individual antigens were then
     cloned by screening a λgt11 expression vector with monoclonal
     antibodies.  Manufacture of individual antigens with hexahistidine affinity
     labels is described.
RE.CNT  9     THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT


=> e skjot rikke/au
E1            2     SKJOT R L/AU
E2            9     SKJOT R L V/AU
E3            1 --> SKJOT RIKKE/AU
E4            2     SKJOT RIKKE L V/AU
E5           17     SKJOT RIKKE LOUISE VINTHER/AU
E6            1     SKJOT V/AU
E7           11     SKJOTH C A/AU
E8            5     SKJOTH C AMBELAS/AU
E9            5     SKJOTH CARSTEN AMBELAS/AU
E10          22     SKJOTH F/AU
E11           4     SKJOTH FLEMMING/AU
E12           3     SKJOTH I H E/AU
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=> s e1-e5 and mycobact?
L4          31 ("SKJOT R L"/AU OR "SKJOT R L V"/AU OR "SKJOT RIKKE"/AU OR "SKJO
               T RIKKE L V"/AU OR "SKJOT RIKKE LOUISE VINTHER"/AU) AND MYCOBACT

=> dup rem l4
PROCESSING COMPLETED FOR L4
L5           11 DUP REM L4 (20 DUPLICATES REMOVED)

=> d bib ab 1-
YOU HAVE REQUESTED DATA FROM 11 ANSWERS - CONTINUE? Y/(N):y


L5   ANSWER 1 OF 11  CAPLUS  COPYRIGHT 2006 ACS on STN DUPLICATE 1
AN   2004:59568  CAPLUS
DN   140:127185
TI   Antigens from Mycobacterium as vaccine and uses in tuberculosis
     diagnosis and treatment
IN   Andersen, Peter; Skjot, Rikke Louise Vinther; Okkels, Li Mei
     Meng; Brock, Inger; Oettinger, Thomas
PA   Den.
SO   U.S. Pat. Appl. Publ., 27 pp., Cont.-in-part of U.S. Ser. No. 804,980.
     CODEN: USXXCO
DT   Patent
LA   English
FAN.CNT 10
     PATENT NO.          KIND   DATE        APPLICATION NO.         DATE
     ---------------     ----   --------    --------------------    --------
PI   US 2004013685        A1    20040122    US 2001-872505          20010601
     EP 1449922           A2    20040825    EP 2004-76605           19980401
     EP 1449922           A3    20041117
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, FI, CY
     WO 2001004151        A2    20010118    WO 2000-DK398           20000713
     WO 2001004151        A3    20010712
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
             HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
             LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
             SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
             YU, ZA, ZW
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
             DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,
             CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
     US 2003147897        A1    20030807    US 2001-804980          20010313
     US 6991797           B2    20060131
PRAI DK 1997-1277         A     19971110
     US 1998-70488P       P     19980105
     US 1998-246191       B2    19981230
     DK 1999-1020         A     19990713
     US 1999-144011P      P     19990715
     US 2000-615947       A2    20000713
     WO 2000-DK398        A2    20000713
     US 2001-804980       A2    20010313
     DK 1993-798          A     19930702
     US 1993-123182       B2    19930920
     WO 1994-DK273        A2    19940701
     US 1995-465640       A1    19950605
     DK 1997-376          A     19970402
     US 1997-44624P       P     19970418
     US 1998-50739        A3    19980330
     EP 1998-913536       A3    19980401
     US 1999-289388       B2    19990412
     US 2001-791171       A2    20010220
AB   The present invention is based on the identification and characterization
     of 3 antigens, including Rv2653c, Rv2654c and RD1-ORF5, from
     Mycobacterium tuberculosis.  The invention is directed to the
     polypeptides and immunol. active fragments thereof, the genes encoding
     them, immunol. compns. such as diagnostic reagents containing the
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polypeptides. The invention related to diagnosing tuberculosis caused by virulent **mycobacteria** in an animal, including a human being. The invention related to treating tuberculosis using antigens isolated from **Mycobacterium** tuberculosis.

L5 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 2
AN 2003:696302 CAPLUS
DN 139:229237
TI Protein and DNA sequences of antigens from **Mycobacterium** and uses in tuberculosis diagnosis and treatment
IN Andersen, Peter; Weldingh, Karin; Hansen, Christina Veggerby; Florio, Walter; Okkels, Li Mei Meng; **Skjot, Rikke Louise Vinther**; Rasmussen, Peter Birk
PA Statens Serum Institut, Den.
SO U.S. Pat. Appl. Publ., 53 pp., Cont.-in-part of U.S. Ser. No. 60,428.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 10

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003165525	A1	20030904	US 2002-138473	20020502
	US 6982085	B2	20060103		
	US 6641814	B1	20031104	US 1998-50739	19980330
	EP 1449922	A2	20040825	EP 2004-76605	19980401
	EP 1449922	A3	20041117		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
	US 2002094336	A1	20020718	US 2001-791171	20010220
PRAI	DK 1997-376	A	19970402		
	US 1997-44624P	P	19970418		
	DK 1997-1277	A	19971110		
	US 1998-70488P	P	19980105		
	US 1998-50739	A2	19980330		
	DK 1998-1281	A	19981008		
	US 2001-791171	B2	20010220		
	US 2002-60428	A2	20020129		
	EP 1998-913536	A3	19980401		

AB The present invention is based on the identification and characterization of 9 antigens, including Rv0652/CFP16, Rv2462c/TB51, Rv1984c/CFP21, Rv2185c/TB16, Rv1636/TB15A, Rv3451/CFP23, Rv3872/RD1-ORF3, Rv3354/CFP8A and Rv2623/TB32, from **Mycobacterium** tuberculosis. The invention is directed to the polypeptides and immunol. active fragments thereof, the genes encoding them, immunol. compns. such as diagnostic reagents containing the polypeptides. The invention related to diagnosing tuberculosis caused by virulent **mycobacteria**, e.g. by **Mycobacterium** tuberculosis, **Mycobacterium** africanum or **Mycobacterium** bovis, in an animal, including a human being. The invention related to treating tuberculosis using antigens isolated from **Mycobacterium** tuberculosis.

L5 ANSWER 3 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 3
AN 2003:609858 CAPLUS
DN 139:163576
TI **Mycobacterium** tuberculosis antigens for diagnosis, prevention and treatment of infections caused by species of the tuberculosis complex
IN Andersen, Peter; **Skjot, Rikke Louise Vinther**
PA Den.
SO U.S. Pat. Appl. Publ., 135 pp., Cont.-in-part of U.S. Ser. No. 289,388, abandoned.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 10

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003147897	A1	20030807	US 2001-804980	20010313
	US 6991797	B2	20060131		
	WO 9501441	A1	19950112	WO 1994-DK273	19940701

W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

	EP 1508339	A1	20050223	EP 2004-77505	19940701
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI				
	US 5955077	A	19990921	US 1995-465640	19950605
	US 6641814	B1	20031104	US 1998-50739	19980330
	EP 1449922	A2	20040825	EP 2004-76605	19980401
	EP 1449922	A3	20041117		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
	US 2002094336	A1	20020718	US 2001-791171	20010220
	US 2004013685	A1	20040122	US 2001-872505	20010601
PRAI	DK 1993-798	A	19930702		
	US 1993-123182	B2	19930920		
	WO 1994-DK273	A2	19940701		
	US 1995-465640	A1	19950605		
	DK 1997-376	A	19970402		
	US 1997-44624P	P	19970418		
	DK 1997-1277	A	19971110		
	US 1998-70488P	P	19980105		
	US 1998-50739	A3	19980330		
	US 1998-246191	A2	19981230		
	US 1999-289388	B2	19990412		
	US 2001-791171	A2	20010220		
	EP 1994-919574	A3	19940701		
	EP 1998-913536	A3	19980401		
	DK 1999-1020	A	19990713		
	US 1999-144011P	P	19990715		
	US 2000-615947	A2	20000713		
	WO 2000-DK398	A2	20000713		
	US 2001-804980	A2	20010313		

AB The present invention is based on the identification and characterization of a number of novel M. tuberculosis derived proteins and protein fragments, e.g. TB10.3 (ORF7-1 or Rv3019c), TB10.4 (CFP7 or Rv0288) and TB12.9 (ORF7-2 or Rv3017c), ESAT-6, MPT64, CFP10, RD1-ORF5, RD1-ORF2, Rv1036, Ag85A, Ag85B, Ag85C, 19 kDa lipoprotein, MPT32, MPB59 and α-crystallin. The invention is directed to the polypeptides and immunol. active fragments thereof, the genes encoding them, immunol. compns. such as vaccines and skin test reagents containing the polypeptides.

L5 ANSWER 4 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 4
AN 2002:906996 CAPLUS
DN 138:13499
TI Hybrids of M. tuberculosis antigens used as vaccines
IN Andersen, Peter; Olsen, Anja Weinreich; **Skjot, Rikke Louise Vinther**; Rasmussen, Peter Birk
PA Den.
SO U.S. Pat. Appl. Publ., 36 pp., Cont.-in-part of U.S. Ser. No. 246,191, abandoned.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 10

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002176867	A1	20021128	US 2001-805427	20010313
	EP 1449922	A2	20040825	EP 2004-76605	19980401
	EP 1449922	A3	20041117		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
PRAI	US 1997-44624P	P	19970418		
	DK 1997-1277	A	19971110		
	US 1998-70488P	P	19980105		
	US 1998-246191	B2	19981230		
	DK 1997-376	A	19970402		

EP 1998-913536 A3 19980401

AB The invention discloses fusion proteins consisting of T cell epitopes derived from the immunodominant antigens ESAT-6 and Ag85B from **Mycobacterium** tuberculosis or homologs thereof, and a tuberculosis vaccine based on the fusion proteins, which induces efficient immunol. memory. It is preferred that the sequences of the first and second T cell epitopes each have a sequence identity of at least 70% with the natively occurring sequence in the proteins from which they are derived. In the most preferred embodiment, the fusion polypeptide comprises ESAT-6 fused to Ag85B wherein ESAT-6 is fused to the C terminus of Ag85B. In one embodiment, there are nitric oxide linkers introduced between the 2 amino acid sequences constituting the parent polypeptide fragments.

L5 ANSWER 5 OF 11 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
DUPLICATE 5
AN 2002:559608 BIOSIS
DN PREV200200559608
TI Epitope mapping of the immunodominant antigen TB10.4 and the two homologous proteins TB10.3 and TB12.9, which constitute a subfamily of the esat-6 gene family.
AU **Skjot, Rikke Louise Vinther**; Brock, Inger; Arend, Sandra M.; Munk, Martin E.; Theisen, Michael; Ottenhoff, Tom H. M.; Andersen, Peter [Reprint author]
CS Department of TB Immunology, Statens Serum Institut, Artillerivej 5, DK-2300, Copenhagen S, Denmark
pa@ssi.dk
SO Infection and Immunity, (October, 2002) Vol. 70, No. 10, pp. 5446-5453. print.
CODEN: INFIBR. ISSN: 0019-9567.
DT Article
LA English
ED Entered STN: 30 Oct 2002
Last Updated on STN: 30 Oct 2002
AB The human T-cell recognition of the low-molecular-mass culture filtrate antigen TB10.4 was evaluated in detail. The molecule was strongly recognized by T cells isolated from tuberculosis (TB) patients and from BCG-vaccinated donors. The epitopes on TB10.4 were mapped with overlapping peptides and found to be distributed throughout the molecule. The broadest response was found in TB patients, whereas the response in BCG-vaccinated donors was focused mainly toward a dominant epitope located in the N terminus (amino acids 1 to 18). The gene encoding TB10.4 was found to belong to a subfamily within the esat-6 family that consists of the three highly homologous proteins TB10.4, TB10.3, and TB12.9 (Rv0288, Rv3019c, and Rv3017c, respectively). Southern blot analysis combined with database searches revealed that the three members of the TB10.4 family were present only in strains of the **Mycobacterium** tuberculosis complex, including BCG, and M. kansasii, whereas other atypical **mycobacteria** had either one (M. avium, M. intracellulare, and M. marinum) or none (M. scrofulaceum, M. fortuitum, and M. szulgai) of the genes. The fine specificity of the T-cell response to the three closely related esat-6 family members was markedly different, with only a few epitopes shared between the molecules. Minimal differences in the amino acid sequence translated into large differences in recognition by T cells and secretion of gamma interferon. In general, the peptides from TB10.4 stimulated the largest responses, but epitopes unique to both TB10.3 and TB12.9 were found. The relevance of the findings for TB vaccine development and as a potential mechanism for immune evasion is discussed.

L5 ANSWER 6 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2001:50676 CAPLUS
DN 134:114829
TI Tuberculosis vaccine and diagnostics based on the **Mycobacterium** tuberculosis esat-6 gene family
IN Andersen, Peter; **Skjot, Rikke**
PA Statens Serum Institut, Den.
SO PCT Int. Appl., 80 pp.
CODEN: PIXXD2
DT Patent
LA English

FAN.CNT 10

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001004151	A2	20010118	WO 2000-DK398	20000713
	WO 2001004151	A3	20010712		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2378763	AA	20010118	CA 2000-2378763	20000713
	AU 2000059664	A5	20010130	AU 2000-59664	20000713
	AU 779495	B2	20050127		
	EP 1200466	A2	20020502	EP 2000-945660	20000713
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
	JP 2003510018	T2	20030318	JP 2001-509760	20000713
	US 2004013685	A1	20040122	US 2001-872505	20010601
	AU 2005201767	A1	20050519	AU 2005-201767	20050427
PRAI	DK 1999-1020	A	19990713		
	US 1999-144011P	P	19990715		
	DK 1997-1277	A	19971110		
	US 1998-70488P	P	19980105		
	US 1998-246191	B2	19981230		
	AU 2000-59664	A3	20000713		
	US 2000-615947	A2	20000713		
	WO 2000-DK398	W	20000713		
	US 2001-804980	A2	20010313		

AB The authors report the cloning and T-cell-stimulatory activity of members of the esat-6 gene family of **Mycobacterium** tuberculosis.

L5 ANSWER 7 OF 11 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
DUPLICATE 6
AN 2001:534626 BIOSIS
DN PREV200100534626
TI Antigen discovery and tuberculosis vaccine development in the post-genomic era.
AU **Skjot, Rikke Louise Vinther**; Agger, Else Marie; Andersen, Peter [Reprint author]
CS Department of TB Immunology, Statens Serum Institut, Artillerivej 5, DK-2300, Copenhagen, Denmark
SO Scandinavian Journal of Infectious Diseases, (2001) Vol. 33, No. 9, pp. 643-647. print.
CODEN: SJIDB7. ISSN: 0036-5548.
DT Article
LA English
ED Entered STN: 14 Nov 2001
Last Updated on STN: 23 Feb 2002
AB For a number of years, a major effort has been put into the identification of candidate molecules for inclusion in a novel vaccine against tuberculosis. Various techniques have been exploited and have resulted in the identification of immunologically important antigens such as the immunodominant antigens ESAT-6 and antigen 85A/B. Today, the availability of the total nucleotide sequence of the **Mycobacterium** tuberculosis genome enables a post-genomic antigen discovery approach based on denotation and screening of complete protein families containing immunodominant molecules. One group of genes sharing properties with ESAT-6 constitute what has been called the esat-6 gene family. The genes have 10-35% homology to esat-6, are approximately the same size and share genomic organization. The data accumulated so far demonstrate that these molecules are immunodominant antigens strongly recognized in human TB patients and with the potential for a novel TB vaccine.

L5 ANSWER 8 OF 11 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 2003:208455 BIOSIS

DN PREV200300208455
TI Antigen discovery and tuberculosis vaccine development in the post-genomic era.
AU **Skjot, Rikke Louise Vinther**; Agger, Else Marie; Andersen, Peter [Reprint Author]
CS Department of TB Immunology, Statens Serum Institut, Artillerivej 5, DK-2300, Copenhagen, Denmark
SO Scandinavian Journal of Infectious Diseases, (2001) No. Special Issue, pp. 79-83. print.
CODEN: SJIDB7. ISSN: 0036-5548.
DT Article
General Review; (Literature Review)
LA English
ED Entered STN: 30 Apr 2003
Last Updated on STN: 30 Apr 2003
AB For a number of years, a major effort has been put into the identification of candidate molecules for inclusion in a novel vaccine against tuberculosis. Various techniques have been exploited and have resulted in the identification of immunologically important antigens such as the immunodominant antigens ESAT-6 and antigen 85A/B. Today, the availability of the total nucleotide sequence of the **Mycobacterium** tuberculosis genome enables a post-genomic antigen discovery approach based on denotation and screening of complete protein families containing immunodominant molecules. One group of genes sharing properties with ESAT-6 constitute what has been called the esat-6 gene family. The genes have 10-35% homology to esat-6, are approximately the same size and share genomic organization. The data accumulated so far demonstrate that these molecules are immunodominant antigens strongly recognized in human TB patients and with the potential for a novel TB vaccine.

L5 ANSWER 9 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2000:260319 CAPLUS
DN 132:292711
TI Tb vaccine and diagnostic based on antigens from the **Mycobacterium** tuberculosis cell
IN Andersen, Peter; Weldingh, Karin; Hansen, Christina Veggerby; Florio, Walter; Okkels, Li Mei Meng; **Skjot, Rikke Louise Vinther**; Rosenkrands, Ida
PA Statens Serum Institut, Den.
SO PCT Int. Appl., 126 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 10

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000021983	A2	20000420	WO 1999-DK538	19991008
	WO 2000021983	A3	20001123		
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2346218	AA	20000420	CA 1999-2346218	19991008
	AU 9960784	A1	20000501	AU 1999-60784	19991008
	AU 766093	B2	20031009		
	EP 1117683	A2	20010725	EP 1999-947257	19991008
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, IE, SI, LT, LV, FI, RO				
PRAI	DK 1998-1281	A	19981008		
	US 1999-116673P	P	19990121		
	WO 1999-DK538	W	19991008		

AB The present invention relates to substantially pure polypeptides, which has a sequence identity of at least 80 % to an amino acid sequence disclosed, or which is a subsequence of at least 6 amino acids thereof, preferably a B- or T-cell epitope of the polypeptides disclosed. The

polypeptide or the subsequence thereof has at least one of nine properties. The use of the disclosed polypeptides in medicine is disclosed, preferably as vaccine or diagnostic agents relating to virulent **Mycobacterium**. The invention further relates to the nucleotide sequences disclosed and the nucleotide sequences encoding the disclosed polypeptides. Medical and non-medical use of the nucleotide sequences is disclosed.

L5 ANSWER 10 OF 11 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 7
AN 2000:349404 BIOSIS
DN PREV200000349404
TI Detection of active tuberculosis infection by T cell responses to early-secreted antigenic target 6-kDa protein and culture filtrate protein 10.
AU Arend, Sandra M. [Reprint author]; Andersen, Peter; van Meijgaarden, Krista E.; **Skjot, Rikke L. V.**; Subronto, Yanri W.; van Dissel, Jaap T.; Ottenhoff, Tom H. M.
CS Dept. of Infectious Diseases, C5P, Leiden University Medical Center, 2300 RC, Leiden, Netherlands
SO Journal of Infectious Diseases, (May, 2000) Vol. 181, No. 5, pp. 1850-1854. print.
CODEN: JIDIAQ. ISSN: 0022-1899.
DT Article
LA English
ED Entered STN: 16 Aug 2000
Last Updated on STN: 7 Jan 2002
AB The purified protein derivative (PPD) skin test has no predictive value for tuberculosis (TB) in **Mycobacterium** bovis bacillus Calmette-Guerin (BCG)-vaccinated individuals because of cross-reactive responses to nonspecific constituents of PPD. T cell responses to early-secreted antigenic target 6-kDa protein (ESAT-6) and the newly identified culture filtrate protein 10 (CFP-10), 2 proteins specifically expressed by M. tuberculosis (MTB) but not by BCG strains, were evaluated. Most TB patients responded to ESAT-6 (92%) or CFP-10 (89%). A minority of BCG-vaccinated individuals responded to both ESAT-6 and CFP-10, their history being consistent with latent infection with MTB in the presence of protective immunity. No responses were found in PPD-negative controls. The sensitivity and specificity of the assay were 84% and 100%, respectively, at a cutoff of 300 pg of interferon-gamma/mL. These data indicate that ESAT-6 and CFP-10 are promising antigens for highly specific immunodiagnosis of TB, even in BCG-vaccinated individuals.

L5 ANSWER 11 OF 11 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 8
AN 2000:104643 BIOSIS
DN PREV200000104643
TI Comparative evaluation of low-molecular-mass proteins from **Mycobacterium** tuberculosis identifies members of the ESAT-6 family as immunodominant T-cell antigens.
AU **Skjot, Rikke Louise Vinther**; Oettinger, Thomas; Rosenkrands, Ida; Ravn, Pernille; Brock, Inger; Jacobsen, Susanne; Andersen, Peter [Reprint author]
CS Department of TB Immunology, Statens Serum Institut, Artillerivej 5, DK-2300, Copenhagen S, Denmark
SO Infection and Immunity, (Jan., 2000) Vol. 68, No. 1, pp. 214-220. print.
CODEN: INFIBR. ISSN: 0019-9567.
DT Article
LA English
ED Entered STN: 22 Mar 2000
Last Updated on STN: 3 Jan 2002
AB Culture filtrate from **Mycobacterium** tuberculosis contains protective antigens of relevance for the generation of a new antituberculosis vaccine. We have identified two previously uncharacterized M. tuberculosis proteins (TB7.3 and TB10.4) from the highly active low-mass fraction of culture filtrate. The molecules were characterized, mapped in a two-dimensional electrophoresis reference map of short-term culture filtrate, and compared with another recently identified low-mass protein, CFP10 (F. X. Berthet, P. B. Rasmussen, I.

Rosenkrands, P. Andersen, and B. Gicquel. Microbiology 144:3195-3203, 1998), and the well-described ESAT-6 antigen. Genetic analyses demonstrated that TB10.4 as well as CFP10 belongs to the ESAT-6 family of low-mass proteins, whereas TB7.3 is a low-molecular-mass protein outside this family. The proteins were expressed in Escherichia coli, and their immunogenicity was tested in cultures of peripheral blood mononuclear cells from human tuberculosis (TB) patients, **Mycobacterium** bovis BCG-vaccinated donors, and nonvaccinated donors. The two ESAT-6 family members, TB10.4 and CFP10, were very strongly recognized and induced gamma interferon release at the same level (CFP10) as or at an even higher level (TB10.4) than ESAT-6. The non-ESAT-6 family member, TB7.3, for comparison, was recognized at a much lower level. CFP10 was found to distinguish TB patients from BCG-vaccinated donors and is, together with ESAT-6, an interesting candidate for the diagnosis of TB. The striking immunodominance of antigens within the ESAT-6 family is discussed, and hypotheses are presented to explain this targeting of the immune response during TB infection.

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=> e oettinger thomas/au
E1            5     OETTINGER T P/AU
E2            2     OETTINGER TH/AU
E3           22 --> OETTINGER THOMAS/AU
E4            7     OETTINGER THOMAS P/AU
E5            7     OETTINGER U/AU
E6            2     OETTINGER ULRICH/AU
E7          169     OETTINGER W/AU
E8            1     OETTINGER W H/AU
E9            1     OETTINGER W K/AU
E10           2     OETTINGER W K E/AU
E11          67     OETTINGER WILLI/AU
E12           3     OETTINGER WOLFGANG/AU

=> s e1-e4 and mycobact?
L6           24 ("OETTINGER T P"/AU OR "OETTINGER TH"/AU OR "OETTINGER THOMAS"/A
                U OR "OETTINGER THOMAS P"/AU) AND MYCOBACT?

=> dup rem l6
PROCESSING COMPLETED FOR L6
L7            13 DUP REM L6 (11 DUPLICATES REMOVED)

=> d bib ab 1-
YOU HAVE REQUESTED DATA FROM 13 ANSWERS - CONTINUE? Y/(N):y


L7   ANSWER 1 OF 13  CAPLUS  COPYRIGHT 2006 ACS on STN DUPLICATE 1
AN   2004:490265  CAPLUS
DN   141:52841
TI   Cloning and characterization of genes encoding culture filtrate antigens
     involved in protective immunity to M. tuberculosis, and use thereof as
     vaccines and in diagnosis
IN   Andersen, Peter; Skiot, Rikke; Oettinger, Thomas; Rasmussen,
     Peter Birk; Rosenkrands, Ida; Weldingh, Karin; Florio, Walter
PA   Den.
SO   U.S. Pat. Appl. Publ., 109 pp., Cont.-in-part of U.S. 6,641,814.
     CODEN: USXXCO
DT   Patent
LA   English
FAN.CNT 10
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     --------------      ----   --------    -------------------    --------
PI   US 2004115211        A1    20040617    US 2003-620246         20030715
     US 6641814           B1    20031104    US 1998-50739          19980330
     EP 1449922           A2    20040825    EP 2004-76605          19980401
     EP 1449922           A3    20041117
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, FI, CY
PRAI DK 1997-376          A     19970402
     US 1997-44624P       P     19970418
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	DK 1997-1277	A	19971110
	US 1998-70488P	P	19980105
	US 1998-50739	A2	19980330
	DK 1998-1281	A	19981008
	EP 1998-913536	A3	19980401

AB The present invention is based on the identification and characterization of a number of M. tuberculosis derived antigens, isolated from culture filtrates of T cells from memory immune mice by T cell epitope mapping. The invention is directed to the polypeptides and immunol. active fragments thereof, the genes encoding them, immunol. compns. such as vaccines and skin test reagents containing the polypeptides. Another part of the invention is based on the surprising discovery that fusions between ESAT-6 and MPT59 are superior immunogens compared to each of the unfused proteins, resp. These antigens are suitable for use in vaccines and in diagnosis of infections.

L7 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 2
AN 2004:59568 CAPLUS
DN 140:127185
TI Antigens from **Mycobacterium** as vaccine and uses in tuberculosis diagnosis and treatment
IN Andersen, Peter; Skjot, Rikke Louise Vinther; Okkels, Li Mei Meng; Brock, Inger; **Oettinger, Thomas**
PA Den.
SO U.S. Pat. Appl. Publ., 27 pp., Cont.-in-part of U.S. Ser. No. 804,980.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 10

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004013685	A1	20040122	US 2001-872505	20010601
	EP 1449922	A2	20040825	EP 2004-76605	19980401
	EP 1449922	A3	20041117		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
	WO 2001004151	A2	20010118	WO 2000-DK398	20000713
	WO 2001004151	A3	20010712		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	US 2003147897	A1	20030807	US 2001-804980	20010313
	US 6991797	B2	20060131		
PRAI	DK 1997-1277	A	19971110		
	US 1998-70488P	P	19980105		
	US 1998-246191	B2	19981230		
	DK 1999-1020	A	19990713		
	US 1999-144011P	P	19990715		
	US 2000-615947	A2	20000713		
	WO 2000-DK398	A2	20000713		
	US 2001-804980	A2	20010313		
	DK 1993-798	A	19930702		
	US 1993-123182	B2	19930920		
	WO 1994-DK273	A2	19940701		
	US 1995-465640	A1	19950605		
	DK 1997-376	A	19970402		
	US 1997-44624P	P	19970418		
	US 1998-50739	A3	19980330		
	EP 1998-913536	A3	19980401		
	US 1999-289388	B2	19990412		
	US 2001-791171	A2	20010220		

AB The present invention is based on the identification and characterization of 3 antigens, including Rv2653c, Rv2654c and RD1-ORF5, from

Mycobacterium tuberculosis. The invention is directed to the polypeptides and immunol. active fragments thereof, the genes encoding them, immunol. compns. such as diagnostic reagents containing the polypeptides. The invention related to diagnosing tuberculosis caused by virulent **mycobacteria** in an animal, including a human being. The invention related to treating tuberculosis using antigens isolated from **Mycobacterium** tuberculosis.

L7 ANSWER 3 OF 13 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
DUPLICATE 3
AN 2004:5335 BIOSIS
DN PREV200400007544
TI Nucleic acids fragments and polypeptide fragments derived from M. tuberculosis.
AU Andersen, Peter [Inventor, Reprint Author]; Nielsen, Rikke [Inventor]; **Oettinger, Thomas** [Inventor]; Rasmussen, Peter Birk [Inventor]; Rosenkrands, Ida [Inventor]; Weldingh, Karin [Inventor]; Florio, Walter [Inventor]
CS Bronshoj, Denmark
ASSIGNEE: Statens Serum Institut, Copenhagen, Denmark
PI US 6641814 20031104
SO Official Gazette of the United States Patent and Trademark Office Patents, (Nov 4 2003) Vol. 1276, No. 1. http://www.uspto.gov/web/menu/patdata.html. e-file.
ISSN: 0098-1133 (ISSN print).
DT Patent
LA English
ED Entered STN: 17 Dec 2003
Last Updated on STN: 17 Dec 2003
AB The present invention is based on the identification and characterization of a number of M. tuberculosis derived novel proteins and protein fragments (SEQ ID NOs: 2, 4, 6, 8, 10, 12, 14, 16, 17-23, 42, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72-86, 88, 90, 92, 94, 141, 143, 145, 147, 149, 151, 153, and 168-171). The invention is directed to the polypeptides and immunologically active fragments thereof, the genes encoding them, immunological compositions such as vaccines and skin test reagents containing the polypeptides. Another part of the invention is based on the surprising discovery that fusions between ESAT-6 and MPT59 are superior immunogens compared to each of the unfused proteins, respectively.

L7 ANSWER 4 OF 13 USPATFULL on STN
AN 2002:178550 USPATFULL
TI Nucleic acid fragments and polypeptide fragments derived from M. tuberculosis
IN Andersen, Peter, Bronshoj, DENMARK
Nielsen, Rikke, Frederiksberg C, DENMARK
Oettinger, Thomas, Hellerup, DENMARK
Rasmussen, Peter Birk, Kobenhaven O, DENMARK
Rosenkrands, Ida, Kobenhaven O, DENMARK
Weldingh, Karin, Kobenhaven N, DENMARK
Florio, Walter, Frederiksberg C, DENMARK
PA STATENS SERUM INSTITUT (non-U.S. corporation)
PI US 2002094336 A1 20020718
AI US 2001-791171 A1 20010220 (9)
RLI Division of Ser. No. US 1998-50739, filed on 30 Mar 1998, PENDING
PRAI DK 1997-376 19970402
DK 1997-1277 19971110
US 1997-44624P 19970418 (60)
US 1998-70488P 19980105 (60)
DT Utility
FS APPLICATION
LREP FROMMER LAWRENCE & HAUG LLP, 745 FIFTH AVENUE, NEW YORK, NY, 10151
CLMN Number of Claims: 53
ECL Exemplary Claim: 1
DRWN 6 Drawing Page(s)
LN.CNT 6134
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is based on the identification and

characterization of a number of M. tuberculosis derived novel proteins and protein fragments (SEQ ID NOs: 2, 4, 6, 8, 10, 12, 14, 16, 17-23, 42, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72-86, 88, 90, 92, 94, 141, 143, 145, 147, 149, 151, 153, and 168-171). The invention is directed to the polypeptides and immunologically active fragments thereof, the genes encoding them, immunological compositions such as vaccines and skin test reagents containing the polypeptides. Another part of the invention is based on the surprising discovery that fusions between ESAT-6 and MPT59 are superior immunogens compared to each of the unfused proteins, respectively.

L7 ANSWER 5 OF 13 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
DUPLICATE 4
AN 2001:222123 BIOSIS
DN PREV200100222123
TI Diagnostic skin test for tuberculosis.
AU Haslov, Kaare [Inventor]; Andersen, Ase Bengaard [Inventor]; **Oettinger, Thomas** [Inventor]
PI US 6120776 20000919
SO Official Gazette of the United States Patent and Trademark Office Patents, (Sep. 19, 2000) Vol. 1238, No. 3. e-file.
CODEN: OGUPE7. ISSN: 0098-1133.
DT Patent
LA English
ED Entered STN: 9 May 2001
Last Updated on STN: 18 Feb 2002
AB Diagnostic methods capable of discriminating between cell mediated immunologic responses due to on the one hand active tuberculosis caused by bacteria belonging to the tuberculosis complex (**Mycobacterium** tuberculosis, **Mycobacterium** africanum and **Mycobacterium** bovis) and on the other hand vaccination with an immunogenic agent conferring immunity to tuberculosis. A diagnostic kit is also provided, comprising a polypeptide (e.g. MPT64) capable of eliciting a delayed type hypersensitivity reaction (Dth) in animals with active tuberculosis, but not in animals vaccinated against TB with an immunogenic agent (e.g. M. bovis BCG strain: Danish 1331). Also provided are polypeptide fragments comprising a T-cell epitope of MPT64 as well as nucleic acid fragments encoding these polypeptide fragments.

L7 ANSWER 6 OF 13 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
DUPLICATE 5
AN 2000:104643 BIOSIS
DN PREV200000104643
TI Comparative evaluation of low-molecular-mass proteins from **Mycobacterium** tuberculosis identifies members of the ESAT-6 family as immunodominant T-cell antigens.
AU Skjot, Rikke Louise Vinther; **Oettinger, Thomas**; Rosenkrands, Ida; Ravn, Pernille; Brock, Inger; Jacobsen, Susanne; Andersen, Peter [Reprint author]
CS Department of TB Immunology, Statens Serum Institut, Artillerivej 5, DK-2300, Copenhagen S, Denmark
SO Infection and Immunity, (Jan., 2000) Vol. 68, No. 1, pp. 214-220. print.
CODEN: INFIBR. ISSN: 0019-9567.
DT Article
LA English
ED Entered STN: 22 Mar 2000
Last Updated on STN: 3 Jan 2002
AB Culture filtrate from **Mycobacterium** tuberculosis contains protective antigens of relevance for the generation of a new antituberculosis vaccine. We have identified two previously uncharacterized M. tuberculosis proteins (TB7.3 and TB10.4) from the highly active low-mass fraction of culture filtrate. The molecules were characterized, mapped in a two-dimensional electrophoresis reference map of short-term culture filtrate, and compared with another recently identified low-mass protein, CFP10 (F. X. Berthet, P. B. Rasmussen, I. Rosenkrands, P. Andersen, and B. Gicquel. Microbiology 144:3195-3203, 1998), and the well-described ESAT-6 antigen. Genetic analyses demonstrated that TB10.4 as well as CFP10 belongs to the ESAT-6 family of low-mass proteins, whereas TB7.3 is a low-molecular-mass protein outside

this family. The proteins were expressed in Escherichia coli, and their immunogenicity was tested in cultures of peripheral blood mononuclear cells from human tuberculosis (TB) patients, **Mycobacterium** bovis BCG-vaccinated donors, and nonvaccinated donors. The two ESAT-6 family members, TB10.4 and CFP10, were very strongly recognized and induced gamma interferon release at the same level (CFP10) as or at an even higher level (TB10.4) than ESAT-6. The non-ESAT-6 family member, TB7.3, for comparison, was recognized at a much lower level. CFP10 was found to distinguish TB patients from BCG-vaccinated donors and is, together with ESAT-6, an interesting candidate for the diagnosis of TB. The striking immunodominance of antigens within the ESAT-6 family is discussed, and hypotheses are presented to explain this targeting of the immune response during TB infection.

L7 ANSWER 7 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1998:684968 CAPLUS
DN 129:300060
TI Novel antigens of **Mycobacterium** tuberculosis culture filtrates and the genes encoding and their diagnostic and prophylactic use
IN Andersen, Peter; Nielsen, Rikke; Rosenkrands, Ida; Weldingh, Karin; Rasmussen, Peter Birk; **Oettinger, Thomas**; Florio, Walter
PA Statens Serum Institut, Den.
SO PCT Int. Appl., 264 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 10

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9844119	A1	19981008	WO 1998-DK132	19980401
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2285625	AA	19981008	CA 1998-2285625	19980401
AU 9868204	A1	19981022	AU 1998-68204	19980401
AU 740545	B2	20011108		
EP 972045	A1	20000119	EP 1998-913536	19980401
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001515359	T2	20010918	JP 1998-541074	19980401
EP 1449922	A2	20040825	EP 2004-76605	19980401
EP 1449922	A3	20041117		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
CA 2319380	AA	19990520	CA 1998-2319380	19981008
WO 9924577	A1	19990520	WO 1998-DK438	19981008
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1029053	A1	20000823	EP 1998-947412	19981008
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
NZ 504951	A	20010629	NZ 1998-504951	19981008
AU 750173	B2	20020711	AU 1998-94338	19981008
EP 1484405	A1	20041208	EP 2004-77071	19981008
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
PRAI DK 1997-376	A	19970402		
US 1997-44624P	P	19970418		

DK 1997-1277 A 19971110
US 1998-70488P P 19980105
EP 1998-913536 A3 19980401
WO 1998-DK132 W 19980401
EP 1998-947412 A3 19981008
WO 1998-DK438 W 19981008

AB Culture filtrate antigens of **Mycobacterium** tuberculosis are characterized and cDNAs encoding them are cloned. Some of the proteins are antigenic and suitable for use in vaccines and in diagnosis of infections, e.g. skin tests. A fusion protein of two of these antigens is a superior immunogen compared to the unfused proteins. Individual antigens from culture filtrates were identified by T cell mapping using T cells from memory immune mice. Genes for individual antigens were then cloned by screening a λgt11 expression vector with monoclonal antibodies. Manufacture of individual antigens with hexahistidine affinity labels is described.

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 8 OF 13 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
DUPLICATE 6
AN 1998:348514 BIOSIS
DN PREV199800348514
TI Delayed-type hypersensitivity responses to ESAT-6 and MPT64 from **Mycobacterium** tuberculosis in the guinea pig.
AU Elhay, Martin J.; **Oettinger, Thomas**; Andersen, Peter [Reprint author]
CS Dep. T.B. Immunol., Statens Serum Inst., Artillerivej 5, Copenhagen 2300, Denmark
SO Infection and Immunity, (July, 1998) Vol. 66, No. 7, pp. 3454-3456. print.
CODEN: INFIBR. ISSN: 0019-9567.
DT Article
LA English
ED Entered STN: 13 Aug 1998
Last Updated on STN: 13 Aug 1998
AB Two antigens from **Mycobacterium** tuberculosis, ESAT-6 and MPT64, elicited delayed-type hypersensitivity (DTH) skin responses in outbred guinea pigs infected with M. tuberculosis by the aerosol and intravenous routes but not those sensitized with M. bovis BCG or M. avium. The DTH epitope of ESAT-6 was mapped to the C terminus. Nonresponders to the individual antigens were found, but all animals responded to a combination of ESAT-6 and MPT64 or their respective minimal target peptides. Correspondingly, these molecules could form the basis of a new skin test for tuberculosis.

L7 ANSWER 9 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1996:632476 CAPLUS
DN 125:325659
TI Key epitopes on the ESAT-6 antigen recognized in mice during the recall of protective immunity to **Mycobacterium** tuberculosis
AU Brandt, Lise; **Oettinger, Thomas**; Holm, Arne; Andersen, Aase B.; Andersen, Peter
CS Bacterial Vaccine and Mycobacteria Dep., Royal Veterinary and Agricultural Univ., Copenhagen, Den.
SO Journal of Immunology (1996), 157(8), 3527-3533
CODEN: JOIMA3; ISSN: 0022-1767
PB American Association of Immunologists
DT Journal
LA English
AB The recall of long-lived immunity in a mouse model of tuberculosis (TB) is defined as an accelerated accumulation of reactive T cells in the target organs. The authors have recently identified antigen (Ag) 85B and a 6-kDa early secretory antigenic target, designated ESAT-6, as key antigenic targets recognized by these cells. Here, preferential recognition of the ESAT-6 Ag during the recall of immunity was shared by 5 of 6 genetically different strains of mice. Overlapping peptides spanning the sequence of ESAT-6 were used to map 2 T cell epitopes on this mol. One epitope recognized in the context of H-2b,d was located in the N-terminal part of the mol., whereas an epitope recognized in the context of H-2a,k covered

amino acids 51-60. Shorter versions of the N-terminal epitope allowed the precise definition of a 13-amino acid core sequence recognized in the context of H-2b. The peptide covering the N-terminal epitope was immunogenic, and a T cell response with the same fine specificity as that induced during TB infection was generated by immunization with the peptide in IFA. In the C57BL/6j strain, this single epitope was recognized by an exceedingly high frequency of splenic T cells (.apprx.1:1000), representing 25-35% of the total culture filtrate-reactive T cells recruited to the site of infection during the first phase of the recall response. These findings emphasize the relevance of this Ag in the immune response to TB and suggest that immunol. recognition in the first phase of infection is a highly restricted event dominated by a limited number of T cell clones.

L7 ANSWER 10 OF 13 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 7
AN 1996:76919 BIOSIS
DN PREV199698649054
TI Evidence for occurrence of the ESAT-6 protein in **Mycobacterium** tuberculosis and virulent **Mycobacterium** bovis and for its absence in **Mycobacterium** bovis BCG.
AU Harboe, Morten [Reprint author]; **Oettinger, Thomas**; Wiker, Harald Gotten; Rosenkrands, Ida; Andersen, Peter
CS Inst. Immunol. Rheumatol., Univ. Oslo, N-0172 Oslo, Norway
SO Infection and Immunity, (1996) Vol. 64, No. 1, pp. 16-22.
CODEN: INFIBR. ISSN: 0019-9567.
DT Article
LA English
ED Entered STN: 27 Feb 1996
Last Updated on STN: 27 Feb 1996
AB ESAT-6 is a secreted protein present in the short-term culture filtrate of **Mycobacterium** tuberculosis after growth on a synthetic Sauton medium. ESAT-6 has recently been demonstrated to induce strong T-cell responses in a mouse model of memory immunity after infection with M. tuberculosis. In Western blotting (immunoblotting), the monoclonal antibody HYB76-8. reacting with ESAT-6, gave a 6-kDa band in culture filtrates from M. tuberculosis and virulent **Mycobacterium** bovis. A distinct band in the 24-kDa region was observed in filtrates from four of eight substrains of M. bovis BCG that produced high levels of MPB64, while no band occurred in the 6-kDa region with any of these BCG substrains. Southern blotting and PCR experiments with genomic **mycobacterial** DNA showed the presence of the esat-6 gene in reference strains and clinical isolates of V. tuberculosis as well as in virulent M. bovis. The esat-6 gene could not be demonstrated in any of the eight substrains of M. bovis BCG tested by these techniques. Two gene deletions that distinguish M. bovis BCG from virulently M. bovis have thus now been demonstrated. Deletion of mpb64 affects four of the eight substrains tested; deletion of esat-6 affects all of them. The reaction of HYB76-8 at 26 kDa with four of the BCG substrains was demonstrated to result from cross-reactivity with MPB64. HYB76-8 was also shown to cross-react with the A, B, and C components of the antigen 85 complex and MPT51.

L7 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1995:498385 CAPLUS
DN 122:260539
TI Diagnostic skin test for tuberculosis: a method able to distinguish infection from vaccination
IN Hasloev, Kaare; Andersen, Aase Bengaard; **Oettinger, Thomas**
PA Statens Seruminstitut, Den.
SO PCT Int. Appl., 85 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9501440	A1	19950112	WO 1994-DK270	19940630

W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, CZ, DE, DE, DK, DK,

ES, FI, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, SK, TJ, TT, UA
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

	AU 9470686	A1	19950124	AU 1994-70686	19940630
	AU 685133	B2	19980115		
	EP 749486	A1	19961227	EP 1994-919572	19940630
	R: BE, CH, DE, ES, FR, GB, IT, LI				
	US 6120776	A	20000919	US 1996-569221	19960212
PRAI	DK 1993-797	A	19930702		
	WO 1994-DK270	W	19940630		

AB Diagnostic methods capable of discriminating between cell mediated immunol. responses due to on the one hand active tuberculosis caused by bacteria belonging to the tuberculosis complex (**Mycobacterium** tuberculosis, **Mycobacterium** africanum and **Mycobacterium** bovis) and on the other hand vaccination with an immunogenic agent conferring immunity to tuberculosis. A diagnostic kit is also provided, comprising a polypeptide (e.g. MPT64) capable of eliciting a delayed type hypersensitivity reaction in animals with active tuberculosis, but not in animals vaccinated against TB with an immunogenic agent (e.g. M. bovis BCG strain: Danish 1331). Also provided are polypeptide fragments comprising a T-cell epitope of MPT64 as well as nucleic acid fragments encoding these polypeptide fragments.

L7 ANSWER 12 OF 13 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 8
AN 1996:21932 BIOSIS
DN PREV199698594067
TI Mapping of the delayed-type hypersensitivity-inducing epitope of secreted protein MPT64 from **Mycobacterium** tuberculosis.
AU **Oettinger, Thomas** [Reprint author]; Holm, Arne; Mtoni, Isaac M.; Andersen, Ase B.; Haslov, Kaare
CS Mycobacteria Dep., Div. Diagnostics, Statens Seruminstitut, Artillerivej 5, DK-2300 Copenhagen S, Denmark
SO Infection and Immunity, (1995) Vol. 63, No. 12, pp. 4613-4618. CODEN: INFIBR. ISSN: 0019-9567.
DT Article
LA English
ED Entered STN: 12 Jan 1996
Last Updated on STN: 12 Jan 1996
AB The gene encoding the immunogenic protein MPT64 found in culture filtrates of **Mycobacterium** tuberculosis H37Rv was expressed in Escherichia coli K-12 and purified as a recombinant protein. The purified recombinant MPT64 elicited delayed-type hypersensitivity (DTH) in outbred guinea pigs sensitized with **Mycobacterium** bovis BCG Tokyo. The skin reactions were comparable to those obtained with native MPT64. No skin reactions were observed when either recombinant MPT64 or native MPT64 was used in guinea pigs sensitized with M. bovis BCG Danish 1331. Amino- and carboxy-terminal deletion mutants of MPT64 were purified as fusion proteins for the mapping of DTH-inducing epitopes on recombinant MPT64 by use of the guinea pig skin test model. The part of the molecule responsible for the biological activity was located at the carboxy-terminal end. Further studies with overlapping synthetic peptides have pinpointed the biological activity at a single DTH-inducing epitope consisting of 15 residues between amino acids Gly-173 and Ala-187. Screening by PCR of 56 clinical isolates of M. tuberculosis from Danish and Tanzanian patients demonstrated the presence of mpt64 in all of the strains. These results point to MPT64 as a possible candidate for a skin test reagent specific for diagnosis of human tuberculosis.

L7 ANSWER 13 OF 13 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 9
AN 1994:271662 BIOSIS
DN PREV199497284662
TI Cloning and B-cell-epitope mapping of MPT64 from **Mycobacterium** tuberculosis H37Rv.
AU **Oettinger, Thomas** [Reprint author]; Andersen, Ase B.
CS Mycobacteria Dep., Sector Biotechnol., Statens Seruminstitut, Artillerivej

5, DK-2300 Copenhagen S, Denmark
SO Infection and Immunity, (1994) Vol. 62, No. 5, pp. 2058-2064.
CODEN: INFIBR. ISSN: 0019-9567.
DT Article
LA English
OS EMBL-X75361
ED Entered STN: 24 Jun 1994
Last Updated on STN: 24 Jun 1994
AB The gene of the immunogenic protein MPT64 found in culture filtrates of **Mycobacterium** tuberculosis H37Rv was cloned and sequenced. A comparison showed mpt64 and the gene encoding MPB64 from **Mycobacterium** bovis BCG Tokyo to be identical except for one silent mutation. The regions encoding the promoter and the signal peptide were also well conserved for the two sequences. Southern blot experiments on genomic **mycobacterial** DNA showed the presence of mpt64 in the M. tuberculosis substrains H37Rv, H37Ra, and Erdman and in the M. bovis BCG substrains Tokyo, Moreau, and Russian, whereas the M. bovis BCG substrains Glaxo, Pasteur, Canadian, Tice, and Danish 1331 and **Mycobacterium** leprae lack the gene. Southern blot analyses revealed differences in the restriction enzyme patterns within the M. tuberculosis substrains as well as within the M. bovis BCG substrains, indicating either different chromosomal localization of mpt64 or that mutations have occurred at different locations on the chromosomes. N-terminal and C-terminal deletion mutants were constructed for the mapping of B-cell epitopes on MPT64 with five monoclonal antibodies, C24b1, C24b2, C24b3, L24b4, and L24b5. Western blot (immunoblot) analysis revealed that the murine antibodies bind to one linear and three conformational epitopes.

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=> e rasmussen peter b/au
E1          32     RASMUSSEN PETER A/AU
E2           1     RASMUSSEN PETER ANDREAS/AU
E3           1 --> RASMUSSEN PETER B/AU
E4          48     RASMUSSEN PETER BIRK/AU
E5           2     RASMUSSEN PETER BOYEN/AU
E6           1     RASMUSSEN PETER C/AU
E7           1     RASMUSSEN PETER CHR/AU
E8           6     RASMUSSEN PETER CHRISTIAN/AU
E9           3     RASMUSSEN PETER D/AU
E10          2     RASMUSSEN PETER F/AU
E11          1     RASMUSSEN PETER G/AU
E12          1     RASMUSSEN PETER HAARGAARD/AU

=> s e3-e4 and mycobact?
L8          30 ("RASMUSSEN PETER B"/AU OR "RASMUSSEN PETER BIRK"/AU) AND MYCOBA
               CT?

=> dup rem l8
PROCESSING COMPLETED FOR L8
L9           21 DUP REM L8 (9 DUPLICATES REMOVED)

=> d bib ab 1-
YOU HAVE REQUESTED DATA FROM 21 ANSWERS - CONTINUE? Y/(N):y
```

L9 ANSWER 1 OF 21 USPATFULL on STN
AN 2006:9617 USPATFULL
TI Novel methods for therapeutic vaccination
IN Steinaa, Lucilla, Copenhagen V, DENMARK
Mouritsen, Soren, Birkerod, DENMARK
Gautam, Anand, Horsholm, DENMARK
Dalum, Iben, Horsholm, DENMARK
Hanning, Jesper, Birkerod, DENMARK
Leach, Dana, Copenhagen O, DENMARK
Nielsen, Klaus Gregorius, Soborg, DENMARK
Karlsson, Gunilla, Copenhagen O, DENMARK
Rasmussen, Peter Birk, Frederiksberg, DENMARK
PA PHARMEXA A/S, Horsholm, DENMARK (non-U.S. corporation)

PI US 2006008465 A1 20060112
AI US 2005-202516 A1 20050811 (11)
RLI Division of Ser. No. US 2001-806703, filed on 30 Apr 2001, PENDING A 371 of International Ser. No. WO 1999-DK525, filed on 5 Oct 1999
PRAI DK 1998-1261 19981005
US 1998-105011P 19981020 (60)
DT Utility
FS APPLICATION
LREP BIRCH STEWART KOLASCH & BIRCH, PO BOX 747, FALLS CHURCH, VA, 22040-0747, US
CLMN Number of Claims: 23
ECL Exemplary Claim: 1
DRWN 6 Drawing Page(s)
LN.CNT 5986
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method is disclosed for inducing cell-mediated immunity against cellular antigens. More specifically, the invention provides for a method for inducing cytotoxic T-lymphocyte immunity against weak antigens, notably self-proteins. The method entails that antigen presenting cells are induced to present at least one CTL epitope of the weak antigen and at the same time presenting at least one foreign T-helper lymphocyte epitope. In a preferred embodiment, the antigen is a cancer specific antigen, e.g. PSM, Her2, or FGF8b. The method can be exercised by using traditional polypeptide vaccination, but also by using live attenuated vaccines or nucleic acid vaccination. The invention furthermore provides immunogenic analogues of PSM, Her2 and FGF8b, as well as nucleic acid molecules encoding these analogues. Also vectors and transformed cells are disclosed. The invention also provides for a method for identification of immunogenic analogues of weak or non-immunogenic antigens.

L9 ANSWER 2 OF 21 USPATFULL on STN
AN 2006:49294 USPATFULL
TI Methods for therapeutic vaccination
IN Steinaa, Lucilla, Copenhagen, DENMARK
Mouritsen, S.o slashed.ren, Birker.o slashed.d, DENMARK
Gautam, Anand, H.o slashed.rsholm, DENMARK
Dalum, Iben, H.o slashed.rsholm, DENMARK
Hanning, Jesper, Birker.o slashed.d, DENMARK
Leach, Dana, Copenhagen .O slashed., DENMARK
Nielsen, Klaus Gregorius, S.o slashed.borg, DENMARK
Karlsson, Gunilla, Copenhagen .O slashed., DENMARK
Rasmussen, Peter Birk, Frederiksberg, DENMARK
PA Pharmexa A/s, Horsholm, DENMARK (non-U.S. corporation)
PI US 7005498 B1 20060228
WO 2000020027 20000413
AI US 2001-806703 19991005 (9)
WO 1999-DK525 19991005
20010430 PCT 371 date
PRAI DK 1998-1261 19981005
US 2001-105011P 19981020 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Chan, Christina; Assistant Examiner: DiBrino, Marianne
LREP Birch, Stewart, Kolasch & Birch, LLP
CLMN Number of Claims: 5
ECL Exemplary Claim: 1
DRWN 7 Drawing Figure(s); 6 Drawing Page(s)
LN.CNT 6182
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method is disclosed for inducing cell-mediated immunity against cellular antigens. More specifically, the invention provides for a method for inducing cytotoxic T-lymphocyte immunity against weak antigens, notably self-proteins. The method entails that antigen presenting cells are induced to present at least one CTL epitope of the weak antigen and at the same time presenting at least one foreign T-helper lymphocyte epitope. In a preferred embodiment, the antigen is a cancer specific antigen, e.g. PSM, Her2, or FGF8b. The method can be exercised by using traditional polypeptide vaccination, but also by

using live attenuated vaccines or nucleic acid vaccination. The invention furthermore provides immunogenic analogues of PSM, Her2 and FGF8b, as well as nucleic acid molecules encoding these analogues. Also vectors and transformed cells are disclosed. The invention also provides for a method for identification of immunogenic analogues of weak or non-immunogenic antigens.

L9 ANSWER 3 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2005:409557 CAPLUS
DN 142:442339
TI Method for down-regulation of VEGF using immunogenic VEGF analogs in disease treatment
IN **Rasmussen, Peter Birk**; Dal Degan, Florence; Renard, Valery; Klysner, Steen; Volck, Birgitte
PA Pharmexa A/S, Den.
SO PCT Int. Appl., 71 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2005042575	A2	20050512	WO 2004-DK741	20041028
WO 2005042575	A3	20050623		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI DK 2003-1612	A	20031030	
US 2003-516596P	P	20031031	

AB The present invention provides for novel immunogenic variants of VEGF (vascular endothelial growth factor) which are useful in active specific immunotherapy against diseases that are characterized by overexpression of VEGF. The invention also relates to methods of treating such diseases (for instance cancer) as well as to various tools in mol. biol. that assist in the provision of the immunogenic variants.

L9 ANSWER 4 OF 21 USPATFULL on STN
AN 2005:208471 USPATFULL
TI Novel application of vaccination against TNF-alpha
IN Pedersen, Hans Rudolf, Valby, DENMARK
Ebert, Bjarke, Valby, DENMARK
Pedersen, Louise Henriette, Valby, DENMARK
Rasmussen, Peter Birk, Horsholm, DENMARK

PI US 2005180947	A1	20050818	
AI US 2004-939107	A1	20040910 (10)	

RLI Continuation-in-part of Ser. No. WO 2003-DK147, filed on 11 Mar 2003, UNKNOWN

PRAI DK 2002-368	20020311	
US 2002-363128P	20020311 (60)	

DT Utility
FS APPLICATION
LREP FROMMER LAWRENCE & HAUG, 745 FIFTH AVENUE- 10TH FL., NEW YORK, NY, 10151, US
CLMN Number of Claims: 8
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 5591
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to novel medical applications of down-regulation of tumour necrosis factor α (TNF-α) activity, especially novel applications of active immunization against

TNF-a in order to reduce or alleviate pain. In particular, the present invention discloses novel methods for treating or ameliorating neuropathic pain.

L9 ANSWER 5 OF 21 USPATFULL on STN
AN 2005:188836 USPATFULL
TI Novel method for down-regulation of amyloid
IN **Rasmussen, Peter Birk**, Horsholm, DENMARK
Jensen, Martin Roland, Horsholm, DENMARK
Nielsen, Klaus Gregorius, Horsholm, DENMARK
Koefoed, Peter, Horsholm, DENMARK
Degan, Florence Dal, Horsholm, DENMARK
PI US 2005163744 A1 20050728
AI US 2004-783317 A1 20040220 (10)
RLI Continuation-in-part of Ser. No. WO 2002-DK547, filed on 20 Aug 2002, UNKNOWN
PRAI DK 2001-1231 20010820
DK 2002-558 20020416
US 2001-337543P 20011022 (60)
US 2002-373027P 20020416 (60)
DT Utility
FS APPLICATION
LREP FROMMER LAWRENCE & HAUG, 745 FIFTH AVENUE- 10TH FL., NEW YORK, NY, 10151, US
CLMN Number of Claims: 51
ECL Exemplary Claim: 1
DRWN 2 Drawing Page(s)
LN.CNT 3623
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Disclosed are novel methods for combatting diseases characterized by deposition of amyloid. The methods generally rely on immunization against amyloid precursor protien (APP) or beta amyloid (Aβ). Immunization is preferably effected by administration of analogues of autologous APP or Aβ, said analogues being capable of inducing antibody production against the autologous amyloidogenic polypeptides. Especially preferred as an immunogen is autologous Aβ which has been modified by introduction of one single or a few foreign, immunodominant and promiscuous T-cell epitopes. Also disclosed are nucleic acid vaccination against APP or Aβ and vaccination using live vaccines as well as methods and means useful for the vaccination. Such methods and means include methods for the preparation of analogues and pharmaceutical formulations, as well as nucleic acid fragments, vectors, transformed cells, polypeptides and pharmaceutical formulations.

L9 ANSWER 6 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 1
AN 2004:490265 CAPLUS
DN 141:52841
TI Cloning and characterization of genes encoding culture filtrate antigens involved in protective immunity to M. tuberculosis, and use thereof as vaccines and in diagnosis
IN Andersen, Peter; Skiot, Rikke; Oettinger, Thomas; **Rasmussen, Peter Birk**; Rosenkrands, Ida; Weldingh, Karin; Florio, Walter
PA Den.
SO U.S. Pat. Appl. Publ., 109 pp., Cont.-in-part of U.S. 6,641,814.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 10

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2004115211	A1	20040617	US 2003-620246	20030715
US 6641814	B1	20031104	US 1998-50739	19980330
EP 1449922	A2	20040825	EP 2004-76605	19980401
EP 1449922	A3	20041117		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
PRAI DK 1997-376	A	19970402		
US 1997-44624P	P	19970418		

DK 1997-1277	A	19971110
US 1998-70488P	P	19980105
US 1998-50739	A2	19980330
DK 1998-1281	A	19981008
EP 1998-913536	A3	19980401

AB The present invention is based on the identification and characterization of a number of M. tuberculosis derived antigens, isolated from culture filtrates of T cells from memory immune mice by T cell epitope mapping. The invention is directed to the polypeptides and immunol. active fragments thereof, the genes encoding them, immunol. compns. such as vaccines and skin test reagents containing the polypeptides. Another part of the invention is based on the surprising discovery that fusions between ESAT-6 and MPT59 are superior immunogens compared to each of the unfused proteins, resp. These antigens are suitable for use in vaccines and in diagnosis of infections.

L9 ANSWER 7 OF 21 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 2
AN 2004:5335 BIOSIS
DN PREV200400007544
TI Nucleic acids fragments and polypeptide fragments derived from M. tuberculosis.
AU Andersen, Peter [Inventor, Reprint Author]; Nielsen, Rikke [Inventor]; Oettinger, Thomas [Inventor]; **Rasmussen, Peter Birk** [Inventor]; Rosenkrands, Ida [Inventor]; Weldingh, Karin [Inventor]; Florio, Walter [Inventor]
CS Bronshoj, Denmark
ASSIGNEE: Statens Serum Institut, Copenhagen, Denmark
PI US 6641814 20031104
SO Official Gazette of the United States Patent and Trademark Office Patents, (Nov 4 2003) Vol. 1276, No. 1. http://www.uspto.gov/web/menu/patdata.html. e-file.
ISSN: 0098-1133 (ISSN print).
DT Patent
LA English
ED Entered STN: 17 Dec 2003
Last Updated on STN: 17 Dec 2003
AB The present invention is based on the identification and characterization of a number of M. tuberculosis derived novel proteins and protein fragments (SEQ ID NOs: 2, 4, 6, 8, 10, 12, 14, 16, 17-23, 42, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72-86, 88, 90, 92, 94, 141, 143, 145, 147, 149, 151, 153, and 168-171). The invention is directed to the polypeptides and immunologically active fragments thereof, the genes encoding them, immunological compositions such as vaccines and skin test reagents containing the polypeptides. Another part of the invention is based on the surprising discovery that fusions between ESAT-6 and MPT59 are superior immunogens compared to each of the unfused proteins, respectively.

L9 ANSWER 8 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 3
AN 2003:696302 CAPLUS
DN 139:229237
TI Protein and DNA sequences of antigens from **Mycobacterium** and uses in tuberculosis diagnosis and treatment
IN Andersen, Peter; Weldingh, Karin; Hansen, Christina Veggerby; Florio, Walter; Okkels, Li Mei Meng; Skjot, Rikke Louise Vinther; **Rasmussen, Peter Birk**
PA Statens Serum Institut, Den.
SO U.S. Pat. Appl. Publ., 53 pp., Cont.-in-part of U.S. Ser. No. 60,428.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 10

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2003165525	A1	20030904	US 2002-138473	20020502
US 6982085	B2	20060103		
US 6641814	B1	20031104	US 1998-50739	19980330
EP 1449922	A2	20040825	EP 2004-76605	19980401

EP 1449922 A3 20041117
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY
US 2002094336 A1 20020718 US 2001-791171 20010220
PRAI DK 1997-376 A 19970402
US 1997-44624P P 19970418
DK 1997-1277 A 19971110
US 1998-70488P P 19980105
US 1998-50739 A2 19980330
DK 1998-1281 A 19981008
US 2001-791171 B2 20010220
US 2002-60428 A2 20020129
EP 1998-913536 A3 19980401
AB The present invention is based on the identification and characterization of 9 antigens, including Rv0652/CFP16, Rv2462c/TB51, Rv1984c/CFP21, Rv2185c/TB16, Rv1636/TB15A, Rv3451/CFP23, Rv3872/RD1-ORF3, Rv3354/CFP8A and Rv2623/TB32, from **Mycobacterium** tuberculosis. The invention is directed to the polypeptides and immunol. active fragments thereof, the genes encoding them, immunol. compns. such as diagnostic reagents containing the polypeptides. The invention related to diagnosing tuberculosis caused by virulent **mycobacteria**, e.g. by **Mycobacterium** tuberculosis, **Mycobacterium** africanum or **Mycobacterium** bovis, in an animal, including a human being. The invention related to treating tuberculosis using antigens isolated from **Mycobacterium** tuberculosis.

L9 ANSWER 9 OF 21 USPATFULL on STN
AN 2003:225306 USPATFULL
TI Novel method for down-regulation of amyloid
IN **Rasmussen, Peter Birk**, Horsholm, DENMARK
Jensen, Martin Roland, Horsholm, DENMARK
Nielsen, Klaus Gregorius, Horsholm, DENMARK
Koefoed, Peter, Horsholm, DENMARK
Degan, Florence Dal, Horsholm, DENMARK
PI US 2003157117 A1 20030821
AI US 2002-223809 A1 20020820 (10)
PRAI DK 2001-1231 20010820
DK 2002-58 20020416
US 2001-337543P 20011022 (60)
US 2002-373027P 20020416 (60)
DT Utility
FS APPLICATION
LREP FROMMER LAWRENCE & HAUG, 745 FIFTH AVENUE- 10TH FL., NEW YORK, NY, 10151
CLMN Number of Claims: 42
ECL Exemplary Claim: 1
DRWN 2 Drawing Page(s)
LN.CNT 3681
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Disclosed are novel methods for combatting diseases characterized by deposition of amyloid. The methods generally rely on immunization against amyloid precursor protien (APP) or beta amyloid (Aβ). Immunization is preferably effected by administration of analogues of autologous APP or Aβ, said analogues being capable of inducing antibody production against the autologous amyloidogenic polypeptides. Especially preferred as an immunogen is autologous Aβ which has been modified by introduction of one single or a few foreign, immunodominant and promiscuous T-cell epitopes. Also disclosed are nucleic acid vaccination against APP or Aβ and vaccination using live vaccines as well as methods and means useful for the vaccination. Such methods and means include methods for the preparation of analogues and pharmaceutical formulations, as well as nucleic acid fragments, vectors, transformed cells, polypeptides and pharmaceutical formulations.

L9 ANSWER 10 OF 21 USPATFULL on STN
AN 2003:134810 USPATFULL
TI Polynucleotide functionally coding for the LHP protein from **Mycobacterium** tuberculosis, its biologically active derivative fragments, as well as methods using the same

IN Gicquel, Brigitte, Paris, FRANCE
Berthet, Francois-Xavier, Paris, FRANCE
Anderson, Peter, Bronshoj, DENMARK
Rasmussen, Peter Birk, Bergsgade, DENMARK
PA INSTITUT PASTEUR, Paris Cedex, FRANCE (non-U.S. corporation)
PI US 2003092899 A1 20030515
AI US 2002-140045 A1 20020508 (10)
RLI Division of Ser. No. US 1998-116492, filed on 16 Jul 1998, GRANTED, Pat. No. US 6436409
PRAI US 1997-52631P 19970716 (60)
DT Utility
FS APPLICATION
LREP OBLON SPIVAK MCCLELLAND MAIER & NEUSTADT PC, FOURTH FLOOR, 1755 JEFFERSON DAVIS HIGHWAY, ARLINGTON, VA, 22202
CLMN Number of Claims: 55
ECL Exemplary Claim: 1
DRWN 14 Drawing Page(s)
LN.CNT 2572
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is directed to a polynucleotide carrying an open reading frame coding for an antigenic polypeptide from **Mycobacterium** tuberculosis, named lhp, which is placed under the control of its own regulation signals which are functional in **mycobacteria**, specially in **mycobacteria** belonging to the **Mycobacterium** tuberculosis complex and also in fast growing **mycobacteria** such as **Mycobacterium** smegmatis. The invention is also directed to the polypeptide LHP encoded by lhp and most preferably to suitable antigenic portions of LHP as well as to oligomeric polypeptides containing more than one unit of LHP or an antigenic portion of LHP. The invention concerns also immunogenic and vaccine compositions containing a polypeptide or an oligomeric polypeptide such as defined above, as well as antibodies directed specifically against such polypeptides that are useful as diagnostic reagents. In another embodiment, the present invention is directed to a polynucleotide carrying the natural regulation signals of lhp which is useful in order to express heterologous proteins in **mycobacteria** . Finally, the present invention is directed to oligonucleotides comprising at least 12 consecutive nucleotides from the regulation sequence of lhp which are useful as reagents for detecting the presence of **Mycobacterium** tuberculosis in a biological sample.

L9 ANSWER 11 OF 21 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 4
AN 2002:512984 BIOSIS
DN PREV200200512984
TI Polynucleotide functionally coding for the LHP protein from **Mycobacterium** tuberculosis, its biologically active derivative fragments, as well as methods using the same.
AU Gicquel, Brigitte [Inventor, Reprint author]; Berthet, Francois-Xavier [Inventor]; Andersen, Peter [Inventor]; **Rasmussen, Peter Birk** [Inventor]
CS Paris, France
ASSIGNEE: Institut Pasteur, Paris, France
PI US 6436409 20020820
SO Official Gazette of the United States Patent and Trademark Office Patents, (Aug. 20, 2002) Vol. 1261, No. 3. http://www.uspto.gov/web/menu/patdata.html. e-file.
CODEN: OGUPE7. ISSN: 0098-1133.
DT Patent
LA English
ED Entered STN: 2 Oct 2002
Last Updated on STN: 2 Oct 2002
AB The present invention is directed to a polynucleotide carrying an open reading frame coding for an antigenic polypeptide from **Mycobacterium** tuberculosis, named lhp, which is placed under the control of its own regulation signals which are functional in **mycobacteria**, specially in **mycobacteria** belonging to the **Mycobacterium** tuberculosis complex and also in fast growing **mycobacteria** such as **Mycobacterium** smegmatis. The

invention is also directed to the polypeptide LHP encoded by lhp and most preferably to suitable antigenic portions of LHP as well as to oligomeric polypeptides containing more than one unit of LHP or an antigenic portion of LHP. The invention concerns also immunogenic and vaccine compositions containing a polypeptide or an oligomeric polypeptide such as defined above, as well as antibodies directed specifically against such polypeptides that are useful as diagnostic reagents. In another embodiment, the present invention is directed to a polynucleotide carrying the natural regulation signals of lhp which is useful in order to express heterologous proteins in **mycobacteria**. Finally, the present invention is directed to oligonucleotides comprising at least 12 consecutive nucleotides from the regulation sequence of lhp which are useful as reagents for detecting the presence of **Mycobacterium** tuberculosis in a biological sample.

L9 ANSWER 12 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 5
AN 2002:906996 CAPLUS
DN 138:13499
TI Hybrids of M. tuberculosis antigens used as vaccines
IN Andersen, Peter; Olsen, Anja Weinreich; Skjot, Rikke Louise Vinther; **Rasmussen, Peter Birk**
PA Den.
SO U.S. Pat. Appl. Publ., 36 pp., Cont.-in-part of U.S. Ser. No. 246,191, abandoned.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 10

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002176867	A1	20021128	US 2001-805427	20010313
EP 1449922	A2	20040825	EP 2004-76605	19980401
EP 1449922	A3	20041117		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
PRAI US 1997-44624P	P	19970418		
DK 1997-1277	A	19971110		
US 1998-70488P	P	19980105		
US 1998-246191	B2	19981230		
DK 1997-376	A	19970402		
EP 1998-913536	A3	19980401		

AB The invention discloses fusion proteins consisting of T cell epitopes derived from the immunodominant antigens ESAT-6 and Ag85B from **Mycobacterium** tuberculosis or homologs thereof, and a tuberculosis vaccine based on the fusion proteins, which induces efficient immunol. memory. It is preferred that the sequences of the first and second T cell epitopes each have a sequence identity of at least 70% with the natively occurring sequence in the proteins from which they are derived. In the most preferred embodiment, the fusion polypeptide comprises ESAT-6 fused to Ag85B wherein ESAT-6 is fused to the C terminus of Ag85B. In one embodiment, there are nitric oxide linkers introduced between the 2 amino acid sequences constituting the parent polypeptide fragments.

L9 ANSWER 13 OF 21 USPATFULL on STN
AN 2002:329478 USPATFULL
TI Novel method for down-regulation of amyloid
IN Jensen, Martin Roland, Holte, DENMARK
Rasmussen, Peter Birk, Frederiksberg, DENMARK
Nielsen, Klaus Gregorius, Soborg, DENMARK
PI US 2002187157 A1 20021212
AI US 2001-785215 A1 20010220 (9)
PRAI PA 2000-200000265 20000221
US 2000-186295P 20000301 (60)
DT Utility
FS APPLICATION
LREP BIRCH STEWART KOLASCH & BIRCH, PO BOX 747, FALLS CHURCH, VA, 22040-0747
CLMN Number of Claims: 58
ECL Exemplary Claim: 1
DRWN 1 Drawing Page(s)

LN.CNT 3272
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method for in vivo down-regulation of amyloid protein in an animal, including a human being, the method comprising effecting presentation to the animal's immune system of an immunogenically effective amount of at least one amyloidogenic polypeptide or subsequence thereof which has been formulated so that immunization of the animal with the amyloidgenic polypeptide or subsequence thereof induces production of antibodies against the amyloidogenic polypeptide, and/or at least one analogue of the amyloidogenic polypeptide wherein is introduced at least one modification in the amino acid sequence of the amyloidogenic polypeptide which has as a result the immunization of the animal with the analogue induces production of antibodies against the amyloidogenic polypeptide.

L9 ANSWER 14 OF 21 USPATFULL on STN
AN 2002:178550 USPATFULL
TI Nucleic acid fragments and polypeptide fragments derived from M. tuberculosis
IN Andersen, Peter, Bronshoj, DENMARK
Nielsen, Rikke, Frederiksberg C, DENMARK
Oettinger, Thomas, Hellerup, DENMARK
Rasmussen, Peter Birk, Kobenhaven O, DENMARK
Rosenkrands, Ida, Kobenhaven O, DENMARK
Weldingh, Karin, Kobenhaven N, DENMARK
Florio, Walter, Frederiksberg C, DENMARK
PA STATENS SERUM INSTITUT (non-U.S. corporation)
PI US 2002094336 A1 20020718
AI US 2001-791171 A1 20010220 (9)
RLI Division of Ser. No. US 1998-50739, filed on 30 Mar 1998, PENDING
PRAI DK 1997-376 19970402
DK 1997-1277 19971110
US 1997-44624P 19970418 (60)
US 1998-70488P 19980105 (60)
DT Utility
FS APPLICATION
LREP FROMMER LAWRENCE & HAUG LLP, 745 FIFTH AVENUE, NEW YORK, NY, 10151
CLMN Number of Claims: 53
ECL Exemplary Claim: 1
DRWN 6 Drawing Page(s)
LN.CNT 6134
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is based on the identification and characterization of a number of M. tuberculosis derived novel proteins and protein fragments (SEQ ID NOs: 2, 4, 6, 8, 10, 12, 14, 16, 17-23, 42, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72-86, 88, 90, 92, 94, 141, 143, 145, 147, 149, 151, 153, and 168-171). The invention is directed to the polypeptides and immunologically active fragments thereof, the genes encoding them, immunological compositions such as vaccines and skin test reagents containing the polypeptides. Another part of the invention is based on the surprising discovery that fusions between ESAT-6 and MPT59 are superior immunogens compared to each of the unfused proteins, respectively.

L9 ANSWER 15 OF 21 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 6
AN 2001:302988 BIOSIS
DN PREV200100302988
TI Protection of mice with a tuberculosis subunit vaccine based on a fusion protein of antigen 85B and ESAT-6.
AU Olsen, Anja Weinreich; van Pinxteren, Laurens A. H.; Okkels, Limei Meng; **Rasmussen, Peter Birk**; Andersen, Peter [Reprint author]
CS Department of TB Immunology, Statens Serum Institut, Artillerivej 5, DK-2300, Copenhagen S, Denmark
pa@ssi.dk
SO Infection and Immunity, (May, 2001) Vol. 69, No. 5, pp. 2773-2778. print.
CODEN: INFIBR. ISSN: 0019-9567.
DT Article
LA English
ED Entered STN: 27 Jun 2001

Last Updated on STN: 19 Feb 2002

AB In this study, we investigated the potential of a tuberculosis subunit vaccine based on fusion proteins of the immunodominant antigens ESAT-6 and antigen 85B. When the fusion proteins were administered to mice in the adjuvant combination dimethyl dioctadecylammonium bromide-monophosphoryl lipid A, a strong dose-dependent immune response was induced to both single components as well as to the fusion proteins. The immune response induced was accompanied by high levels of protective immunity and reached the level of **Mycobacterium** bovis BCG-induced protection over a broad dose range. The vaccine induced efficient immunological memory, which remained stable 30 weeks postvaccination.

L9 ANSWER 16 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1999:77692 CAPLUS
DN 130:165432
TI The antigenic protein LHP of **Mycobacterium** tuberculosis and the lhp gene encoding it and their diagnostic and prophylactic uses
IN Gicquel, Brigitte; Berthet, Francois-Xavier; Andersen, Peter; **Rasmussen, Peter Birk**
PA Institut Pasteur, Fr.; Statens Serum Institut
SO PCT Int. Appl., 88 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9904005	A1	19990128	WO 1998-IB1091	19980716
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2296419	AA	19990128	CA 1998-2296419	19980716
	AU 9881238	A1	19990210	AU 1998-81238	19980716
	EP 1003870	A1	20000531	EP 1998-930967	19980716
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	US 6436409	B1	20020820	US 1998-116492	19980716
	US 2003092899	A1	20030515	US 2002-140045	20020508
PRAI	US 1997-52631P	P	19970716		
	US 1998-116492	A3	19980716		
	WO 1998-IB1091	W	19980716		

AB The **Mycobacterium** tuberculosis gene encoding the antigenic protein LHP that is homologous to the L45 antigen of M. bovis, is cloned and characterized. The gene can be expressed from its own promoter in slow-growing (M. tuberculosis group) and fast-growing (M. smegmatis) **mycobacteria**. The LHP gene product, and antigenic peptides derived from it, can be manufactured for use in vaccines and to raise reagent antibodies for diagnostic use. The promoter of the lhp gene may be of use in the expression of foreign genes in **Mycobacteria**. Oligonucleotides derived from the promoter region may be useful as probes or primers in the detection of M. tuberculosis in a biol. sample. Anal. of the promoters driving expression of the closely linked lhp and orf1C genes of M. tuberculosis established that they form an operon. Use of the promoter to drive expression of a reporter gene in M. smegmatis is demonstrated. The protein is abundant in short-term (7 day) culture filtrates of M. tuberculosis.

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 17 OF 21 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 7
AN 2000:34114 BIOSIS
DN PREV200000034114
TI Differential T-cell recognition of native and recombinant

Mycobacterium tuberculosis GroES.

AU Rosenkrands, Ida; Weldingh, Karin; Ravn, Pernille; Brandt, Lise; Hojrup, Peter; **Rasmussen, Peter Birk**; Coates, Anthony R.; Singh, Mahavir; Mascagni, Paolo; Andersen, Peter [Reprint author]

CS Department of TB Immunology, Statens Serum Institut, 5 Artillerivej, DK-2300, Copenhagen S, Denmark

SO Infection and Immunity, (Nov., 1999) Vol. 67, No. 11, pp. 5552-5558. print.
CODEN: INFIBR. ISSN: 0019-9567.

DT Article

LA English

ED Entered STN: 19 Jan 2000
Last Updated on STN: 31 Dec 2001

AB **Mycobacterium** tuberculosis GroES was purified from culture filtrate, and its identity was confirmed by immunoblot analysis and N-terminal sequencing. Comparing the immunological recognition of native and recombinant GroES, we found that whereas native GroES elicited a strong proliferative response and release of gamma interferon-gamma by peripheral blood mononuclear cells from healthy tuberculin reactors, the recombinant protein failed to do so. The same difference in immunological recognition was observed in a mouse model of TB infection. Both the native and recombinant preparations were recognized by mice immunized with the recombinant protein. Biochemical characterization including sodium dodecyl sulfate-polyacrylamide gel electrophoresis, two-dimensional electrophoresis, and mass spectrometry analysis of both proteins demonstrated no differences between the native and recombinant forms of GroES except for the eight additional N-terminal amino acids derived from the fusion partner inrecombinant GroES. The recombinant fusion protein, still tagged with the maltose binding protein, was recognized by T cells isolated from TB-infected mice if mixed with culture filtrate before affinity purification on an amylose column. The maltose binding protein treated in the same manner as a control preparation was not recognized. Based on the data presented, we suggest that the association of biologically active molecules from culture filtrate with the chaperone GroES may be responsible for the observed T-cell recognition of the native preparation.

L9 ANSWER 18 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1998:684968 CAPLUS

DN 129:300060

TI Novel antigens of **Mycobacterium** tuberculosis culture filtrates and the genes encoding and their diagnostic and prophylactic use

IN Andersen, Peter; Nielsen, Rikke; Rosenkrands, Ida; Weldingh, Karin; **Rasmussen, Peter Birk**; Oettinger, Thomas; Florio, Walter

PA Statens Serum Institut, Den.

SO PCT Int. Appl., 264 pp.
CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 10

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9844119	A1	19981008	WO 1998-DK132	19980401
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2285625	AA	19981008	CA 1998-2285625	19980401
AU 9868204	A1	19981022	AU 1998-68204	19980401
AU 740545	B2	20011108		
EP 972045	A1	20000119	EP 1998-913536	19980401
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001515359	T2	20010918	JP 1998-541074	19980401
EP 1449922	A2	20040825	EP 2004-76605	19980401

EP 1449922 A3 20041117
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY
CA 2319380 AA 19990520 CA 1998-2319380 19981008
WO 9924577 A1 19990520 WO 1998-DK438 19981008
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
EP 1029053 A1 20000823 EP 1998-947412 19981008
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI
NZ 504951 A 20010629 NZ 1998-504951 19981008
AU 750173 B2 20020711 AU 1998-94338 19981008
EP 1484405 A1 20041208 EP 2004-77071 19981008
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY
PRAI DK 1997-376 A 19970402
US 1997-44624P P 19970418
DK 1997-1277 A 19971110
US 1998-70488P P 19980105
EP 1998-913536 A3 19980401
WO 1998-DK132 W 19980401
EP 1998-947412 A3 19981008
WO 1998-DK438 W 19981008

AB Culture filtrate antigens of **Mycobacterium** tuberculosis are characterized and cDNAs encoding them are cloned. Some of the proteins are antigenic and suitable for use in vaccines and in diagnosis of infections, e.g. skin tests. A fusion protein of two of these antigens is a superior immunogen compared to the unfused proteins. Individual antigens from culture filtrates were identified by T cell mapping using T cells from memory immune mice. Genes for individual antigens were then cloned by screening a λgt11 expression vector with monoclonal antibodies. Manufacture of individual antigens with hexahistidine affinity labels is described.

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 19 OF 21 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 8

AN 1998:393332 BIOSIS

DN PREV199800393332

TI Two-dimensional electrophoresis for analysis of **Mycobacterium** tuberculosis culture filtrate and purification and characterization of six novel proteins.

AU Weldingh, Karin; Rosenkrands, Ida; Jacobsen, Susanne; **Rasmussen, Peter Birk**; Elhay, Martin J.; Andersen, Peter [Reprint author]

CS Dep. TB Immunol., Statens Serum Inst., Artillerivej 5, DK-2300 Copenhagen, Denmark

SO Infection and Immunity, (Aug., 1998) Vol. 66, No. 8, pp. 3492-3500. print. CODEN: INFIBR. ISSN: 0019-9567.

DT Article

LA English

ED Entered STN: 10 Sep 1998
Last Updated on STN: 10 Sep 1998

AB Culture filtrate from **Mycobacterium** tuberculosis contains molecules which promote high levels of protective immunity in animal models of subunit vaccination against tuberculosis. We have used two-dimensional electrophoresis for analysis and purification of six novel M. tuberculosis culture filtrate proteins (CFPs): CFP17, CFP20, CFP21, CFP22, CFP25, and CFP28. The proteins were tested for recognition by M. tuberculosis-reactive memory cells from different strains of inbred mice and for their capacity to induce a skin test response in M. tuberculosis-infected guinea pigs. CFP17, CFP20, CFP21 and CFP25 induced both a high gamma interferon release and a strong delayed-type

hypersensitivity response, and CFP21 was broadly recognized by different strains of inbred mice. N-terminal sequences were obtained for the six proteins, and the corresponding genes were identified in the Sanger M. tuberculosis genome database. In parallel we established a two-dimensional electrophoresis reference may of short-term culture filtrate components and mapped novel proteins as well as already-known CFP.

L9 ANSWER 20 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1998:753589 CAPLUS
DN 130:120272
TI A **Mycobacterium** tuberculosis operon encoding ESAT-6 and a novel low-molecular-mass culture filtrate protein (CFP-10)
AU Berthet, Francois-Xavier; **Rasmussen, Peter Birk**; Rosenkrands, Ida; Andersen, Peter; Gicquel, Brigitte
CS Unite de Genetique Mycobacterienne, Institut Pasteur, Paris, 75724, Fr.
SO Microbiology (Reading, United Kingdom) (1998), 144(11), 3195-3203
CODEN: MROBEO; ISSN: 1350-0872
PB Society for General Microbiology
DT Journal
LA English
AB The early secreted antigenic target 6 kDa protein (ESAT-6) is a potent T-cell protein antigen synthesized by **Mycobacterium** tuberculosis. Its corresponding gene (esat-6) is located in RD1, a 10kb DNA region deleted in the attenuated tuberculosis vaccine strain **Mycobacterium** bovis BCG. The promoter region of M. tuberculosis esat-6 was cloned and characterized. A new gene, designated lhp and cotranscribed with esat-6, was identified. Moreover, computer searches in the M. tuberculosis genome identified 13 genes related to the lhp/esat-6 operon, defining a novel gene family. The transcription initiation sites of the lhp/esat-6 operon were mapped using M. tuberculosis RNA. The corresponding promoter signals were not recognized in **Mycobacterium** smegmatis, in which transcription of lhp/esat-6 is initiated at different locations. The M. tuberculosis lhp gene product was identified as CFP-10, a low-mol.-mass protein found in the short-term culture filtrate. These results show that the genes encoding CFP-10 and ESAT-6 are transcribed together in M. tuberculosis and that both code for small exported proteins.
RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 21 OF 21 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 9
AN 1998:304925 BIOSIS
DN PREV199800304925
TI Identification and characterization of a 29-kilodalton protein from **Mycobacterium** tuberculosis culture filtrate recognized by mouse memory effector cells.
AU Rosenkrands, Ida; **Rasmussen, Peter Birk**; Carnio, Markus; Jacobsen, Susanne; Theisen, Michael; Andersen, Peter [Reprint author]
CS Dep. TB Immunol., Statens Serum Inst., 5 Artillerivej, DK-2300 Copenhagen S, Denmark
SO Infection and Immunity, (June, 1998) Vol. 66, No. 6, pp. 2728-2735. print.
CODEN: INFIBR. ISSN: 0019-9567.
DT Article
LA English
OS Genbank-Y12820; EMBL-Y12820; DDBJ-Y12820
ED Entered STN: 15 Jul 1998
Last Updated on STN: 15 Jul 1998
AB Culture filtrate proteins from **Mycobacterium** tuberculosis induce protective immunity in various animal models of tuberculosis. Two molecular mass regions (6 to 10 kDa and 24 to 36 kDa) of short-term culture filtrate are preferentially recognized by Th1 cells in animal models as well as by patients with minimal disease. In the present study, the 24- to 36-kDa region has been studied, and the T-cell reactivity has been mapped in detail. Monoclonal antibodies were generated, and one monoclonal antibody, HYB 71-2, with reactivity against a 29-kDa antigen located in the highly reactive region below the antigen 85 complex was selected. The 29-kDa antigen (CFP29) was purified from M. tuberculosis

short-term culture filtrate by thiophilic adsorption chromatography, anion-exchange chromatography, and gel filtration. In its native form, CFP29 forms a polymer with a high molecular mass. CFP29 was mapped in two-dimensional electrophoresis gels as three distinct spots just below the antigen 85 complex component MPT59. CFP29 is present in both culture filtrate and the membrane fraction from M. tuberculosis, suggesting that this antigen is released from the envelope to culture filtrate during growth. Determination of the N-terminal amino acid sequence allowed cloning and sequencing of the cfp29 gene. The nucleotide sequence showed 62% identity to the bacteriocin Linocin from Brevibacterium linens. Purified recombinant histidine-tagged CFP29 and native CFP29 had similar T-cell stimulatory properties, and they both elicited the release of high levels of gamma interferon from mouse memory effector cells isolated during the recall of protective immunity to tuberculosis. Interspecies analysis by immunoblotting and PCR demonstrated that CFP29 is widely distributed in **mycobacterial** species.

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=> e rosenkrands ida/au
E1            1     ROSENKRANDS G/AU
E2           73     ROSENKRANDS I/AU
E3           68 --> ROSENKRANDS IDA/AU
E4            1     ROSENKRANDS JOHANNES W/AU
E5            2     ROSENKRANDS NIELS PETER/AU
E6            1     ROSENKRANDS P/AU
E7            1     ROSENKRANDS T/AU
E8            5     ROSENKRANDS V/AU
E9            1     ROSENKRANK MAGNUS/AU
E10           1     ROSENKRANS/AU
E11           1     ROSENKRANS A/AU
E12          18     ROSENKRANS A M/AU

=> s e2-e3 and mycobact?
L10         134 ("ROSENKRANDS I"/AU OR "ROSENKRANDS IDA"/AU) AND MYCOBACT?

=> dup rem l10
PROCESSING COMPLETED FOR L10
L11          33 DUP REM L10 (101 DUPLICATES REMOVED)

=> s l11 and tuberculosis
L12          33 L11 AND TUBERCULOSIS

=> d bib ab 1-
YOU HAVE REQUESTED DATA FROM 33 ANSWERS - CONTINUE? Y/(N):y


L12  ANSWER 1 OF 33  BIOSIS  COPYRIGHT (c) 2006 The Thomson Corporation  on STN
AN   2006:130155  BIOSIS
DN   PREV200600112571
TI   Characterization of cationic liposomes based on
     dimethyldioctadecylammonium and synthetic cord factor from M.
     tuberculosis (trehalose 6,6 '-dibehenate) - A novel adjuvant
     inducing both strong CMI and antibody responses.
AU   Davidsen, Jesper; Rosenkrands, Ida; Christensen, Dennis;
     Vangala, Anil; Kirby, Daniel; Perrie, Yvonne; Agger, Else Marie [Reprint
     Author]; Andersen, Peter
CS   Statens Serum Inst, Dept Infect Dis Immunol, Adjuvent Res, DK-2300
     Copenhagen, Denmark
     eag@ssi.dk
SO   Biochimica et Biophysica Acta, (DEC 10 2005) Vol. 1718, No. 1-2, pp.
     22-31.
     ISSN: 0005-2736.
DT   Article
LA   English
ED   Entered STN: 15 Feb 2006
     Last Updated on STN: 15 Feb 2006
AB   incorporation of the glycolipid trehalose 6,6'-dibehenate (TDB) into
     cationic liposomes composed of the quaternary ammonium compound
     dimethyldioctadecylammonium (DDA) produce an adjuvant system which induces
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a powerful cell-mediated immune response and a strong antibody response, desirable for a high number of disease targets. We have used differential scanning calorimetry (DSC) to investigate the effect of TDB on the gel-fluid phase transition of DDA liposomes and to demonstrate that TDB is incorporated into DDA liposome bilayers. Transmission Electron Microscopy (TEM) and cryo-TEM confirmed that liposomes were formed when a lipid film of DDA containing small amounts of TDB was hydrated in an aqueous buffer solution at physiological pH. Furthermore, time development of particle size and zeta potential of DDA liposomes incorporating TDB during storage at 4 degrees C and 25 degrees C, indicates that TDB effectively stabilizes the DDA liposomes. Immunization of mice with the **mycobacterial** fusion protein Ag85B-ESAT-6 in DDA-TDB liposomes induced a strong, specific Th1 type immune response characterized by substantial production of the interferon-gamma cytokine and high levels of IgG2b isotype antibodies. The lymphocyte subset releasing the interferon-gamma was identified as CD4 T cells. (c) 2005 Published by Elsevier B.V.

L12 ANSWER 2 OF 33 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 2005:498396 BIOSIS
DN PREV200510279106
TI Cationic liposomes containing **mycobacterial** lipids: a new powerful Th1 adjuvant system.
AU **Rosenkrands, Ida**; Agger, Else Marie [Reprint Author]; Olsen, Anja W.; Korsholm, Karen S.; Andersen, Claire Swetman; Jensen, Klaus T.; Andersen, Peter
CS Statens Serum Inst, Dept Infect Dis Immunol, 5 Artillerivej, DK-2300 Copenhagen S, Denmark
eag@ssi.dk
SO Infection and Immunity, (SEP 2005) Vol. 73, No. 9, pp. 5817-5826.
CODEN: INFIBR. ISSN: 0019-9567.
DT Article
LA English
ED Entered STN: 16 Nov 2005
Last Updated on STN: 16 Nov 2005
AB The immunostimulation provided by the **mycobacterial** cell wall has been exploited for many decades, e.g., in Freund's complete adjuvant. Recently, the underlying mechanism behind this adjuvant activity, including Toll receptor signaling, has begun to be unraveled, confirming the potential of **mycobacterial** constituents to act as adjuvants. In this study, the immunostimulatory properties of a **Mycobacterium** bovis BCG lipid extract were tested for their adjuvant activity. Administration of the lipids in dimethyl dioctadecyl ammonium bromide-based cationic liposomes induced a powerful Th1 response characterized by markedly elevated antigen-specific immunoglobulin G2a (IgG2a) isotype antibodies and substantial production of gamma interferon. The adjuvant formulation (designated mycosomes) elicited high levels of gamma interferon both in C57BL/6 as well as in Th2-prone BALB/c mice. Furthermore, the mycosomes induced immune responses to protein antigens from several sources including **Mycobacterium** **tuberculosis**, Chlamydia muridarum, and tetanus toxoid. In a **tuberculosis** challenge model, the mycosomes combined with the Ag85B-ESAT-6 fusion protein were demonstrated to have a unique ability to maintain sustained immunological memory at a level superior to live BCG.

L12 ANSWER 3 OF 33 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 2005:256741 BIOSIS
DN PREV200510047544
TI ESAT-6 and CFP-10 in clinical versus environmental isolates of **Mycobacterium** kansasii.
AU Arend, Sandra M. [Reprint Author]; de Haas, Petra; Leyten, Eliane; **Rosenkrands, Ida**; Rigouts, Leen; Andersen, Peter; Mijs, Wouter; van Dissel, Jaap T.; van Soolingen, Dick
CS Leiden Univ, Med Ctr, Dept Infect Dis, C5P,POB 9600, NL-2300 RC Leiden, Netherlands
s.m.arend@lumc.nl
SO Journal of Infectious Diseases, (APR 15 2005) Vol. 191, No. 8, pp. 1301-1310.
CODEN: JIDIAQ. ISSN: 0022-1899.
DT Article

LA English
ED Entered STN: 14 Jul 2005
Last Updated on STN: 14 Jul 2005
AB **Mycobacterium** kansasii consists of 5 genetically distinct groups, of which 2 are associated with human disease. Determinants of the differences in virulence are unknown. Potential genes of interest are esat-6 and cfp-10, which are associated with virulence of **Mycobacterium tuberculosis** and **Mycobacterium** bovis but are lacking in bacille Calmette-Guerin and in most environmental **mycobacteria** (M. kansasii is an exception). We investigated esat-6 and cfp-10 genes in 22 clinical and 14 environmental isolates of M. kansasii. Both were present in all isolates; each genetic group had its own characteristic Southern-blot pattern corresponding to a highly conserved fingerprint pattern. Nucleotide sequences of the genes differed 12.6% and 10.1%, respectively, from the M. **tuberculosis** homologues, but the deduced amino acid sequences were <5% different. In vitro, clinical and environmental genotypes of M. kansasii expressed CFP-10 and ESAT-6. Thus, virulence of M. kansasii is not directly related to esat-6 and cfp-10 genes or gene expression.

L12 ANSWER 4 OF 33 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 2005:240405 BIOSIS
DN PREV200510029170
TI Differential effects of prior exposure to environmental **mycobacteria** on vaccination with **Mycobacterium** bovis BCG or a recombinant BCG strain expressing RD1 antigens.
AU Demangel, Caroline [Reprint Author]; Garnier, Thierry; **Rosenkrands, Ida**; Cole, Stewart T.
CS Inst Pasteur, Unite Genet Mol Bacterienne, 28 Rue Dr Roux, F-75724 Paris, France
demangel@pasteur.fr
SO Infection and Immunity, (APR 2005) Vol. 73, No. 4, pp. 2190-2196.
CODEN: INFIBR. ISSN: 0019-9567.
DT Article
LA English
ED Entered STN: 29 Jun 2005
Last Updated on STN: 29 Jun 2005
AB In silico analysis reveals that most protective antigens expressed by the antituberculous vaccine **Mycobacterium** bovis BCG (BCG) are conserved in M. avium, supporting the hypothesis that exposure to environmental **mycobacteria** generates cross-reactive immune responses blocking BCG activity. We investigated the impact of sensitization with M. avium, M. scrofulaceum, or M. vaccae on the protective efficacy of a recombinant BCG strain expressing RD1 antigens (BCG::RD1), using a mouse model of experimental **tuberculosis** (TB). No evidence that the RD1-encoded antigens ESAT-6, CFP-10, and PPE68 were expressed by these environmental strains could be demonstrated by Western blot analysis. Mice sensitized with each of these strains did not prime cellular immune responses cross-reacting with the immunodominant ESAT-6. Importantly, clearance of BCG::RD1 from the lungs and spleens of mice exposed to each of the environmental strains before vaccination was minimal compared to that of BCG. In mice sensitized with M. avium, increased persistence of BCG::RD1 correlated with stronger antimycobacterial gamma interferon responses and enhanced protection against aerosol infection with M. **tuberculosis**, compared to BCG. In contrast, animals exposed to M. scrofulaceum or M. vaccae prior to vaccination with BCG or BCG::RD1 were better protected against TB than were the unsensitized controls. Our results suggest that the inhibitory effect of environmental **mycobacteria** on the protective efficacy of BCG depends critically on the extent of cross-recognition of antigens shared with the vaccine. In hosts sensitized with M. avium, potent immunogenicity of ESAT-6 and increased persistence of BCG::RD1 may allow this recombinant vaccine to overcome preexisting antimycobacterial responses.

L12 ANSWER 5 OF 33 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 2005:55794 BIOSIS
DN PREV200500051999
TI ESAT-6 proteins: protective antigens and virulence factors?.

AU Brodin, Priscille; **Rosenkrands, Ida**; Andersen, Peter; Cole, Stewart T. [Reprint Author]; Brosch, Roland
CS Unite Genet Mol Bacterienne, Inst Pasteur, 28 Rue Dr Roux, F-75724, Paris, France
stcole@pasteur.fr
SO Trends in Microbiology, (November 2004) Vol. 12, No. 11, pp. 500-508. print.
ISSN: 0966-842X (ISSN print).
DT Article
General Review; (Literature Review)
LA English
ED Entered STN: 3 Feb 2005
Last Updated on STN: 3 Feb 2005
AB The 6 kDa early secreted antigenic target from **Mycobacterium tuberculosis**, ESAT-6, is the prototype of a novel family of small proteins of unknown function produced by Actinobacteria. Export of ESAT-6, a potent T-cell antigen, and related proteins requires a dedicated secretory apparatus that is encoded by a cluster of genes, several of which also code for proteins that are recognized strongly by T cells. ESAT-6 systems can thus be considered as immunogenicity islands and there is growing evidence that the corresponding genes are subject to selective pressure imposed by the immune system of the host. Recently, there has been major progress in understanding the biogenesis, secretion and antigenicity of ESAT-6 proteins and, at least in the case of ESAT-6 system 1, in unravelling their role in pathogenicity. Here, we discuss these findings and their implications for the development of new therapeutic and prophylactic interventions against **tuberculosis**.

L12 ANSWER 6 OF 33 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 2005:26452 BIOSIS
DN PREV200500027841
TI CFP10 discriminates between nonacetylated and acetylated ESAT-6 of **Mycobacterium tuberculosis** by differential interaction.
AU Okkels, Limei Meng; Mueller, Eva-Christina; Schmid, Monika; **Rosenkrands, Ida**; Kaufmann, Stefan H. E.; Andersen, Peter; Jungblut, Peter R. [Reprint Author]
CS Core Facil Prot Anal, Max Planck Inst Infect Biol, Schumannstr 21-22, D-10117, Berlin, Germany
jungblut@mpiib-berlin.mpg.de
SO Proteomics, (October 2004) Vol. 4, No. 10, pp. 2954-2960. print.
ISSN: 1615-9853 (ISSN print).
DT Article
LA English
ED Entered STN: 5 Jan 2005
Last Updated on STN: 5 Jan 2005
AB ESAT-6 (the 6 kDa early secreted antigenic target) protein species in short-term culture filtrate of **Mycobacterium tuberculosis** were separated in a 4-5 narrow range p/ gradient two-dimensional gel electrophoresis (2-DE). Eight ESAT-6 protein species were analyzed in detail by peptide mass fingerprinting matrix-assisted laser desorption/ionization-mass spectrometry as well as by electrospray ionization-tandem mass spectrometry. An N-terminal Thr acetylation was identified in four species and a C-terminal truncation was identified in two species. In 2-DE blot overlay assays, the recombinant 10 kDa culture filtrate protein (CFP10) discriminated N-terminal acetylated and nonacetylated ESAT-6 by differential interaction, whereas removal of the C-terminal 11 residues of ESAT-6 had no effects thereon. This example shows that the access to the protein species level can be a prerequisite to understand regulation of protein-protein interaction.

L12 ANSWER 7 OF 33 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 2004:33002 BIOSIS
DN PREV200400035432
TI PPE protein (Rv3873) from DNA segment RD1 of **Mycobacterium tuberculosis**: Strong recognition of both specific T-cell epitopes and epitopes conserved within the PPE family.
AU Okkels, Limei Meng [Reprint Author]; Brock, Inger; Follmann, Frank; Agger, Else Marie; Arend, Sandra M.; Ottenhoff, Tom H. M.; Oftung, Fredrik; **Rosenkrands, Ida**; Andersen, Peter

CS Department of Infectious Disease Immunology, Statens Serum Institut, Artillerivej 5, DK-2300, Copenhagen, Denmark
lmo@ssi.dk
SO Infection and Immunity, (November 2003) Vol. 71, No. 11, pp. 6116-6123. print.
ISSN: 0019-9567 (ISSN print).
DT Article
LA English
ED Entered STN: 7 Jan 2004
Last Updated on STN: 7 Jan 2004
AB Proteins encoded by DNA segment RD1 of **Mycobacterium tuberculosis** have recently been demonstrated to play important roles in bacterial virulence, vaccine development, and diagnostic reagent design. Previously, we characterized two immunodominant T-cell antigens, the early secreted antigen target (ESAT-6),and the 10-kDa culture filtrate protein (CFP10), which are encoded by the esx-1hp operon in this region. In the present study we characterized a third putative open reading frame in this region, rv3873, which encodes a PPE protein. We found that the rv3873 gene is expressed in M. **tuberculosis** H37Rv and that the native protein, Rv3873, is predominantly associated with the **mycobacterial** cell or wall. When tested as a His-tagged recombinant protein, Rv3873 stimulated high levels of gamma interferon secretion in peripheral blood mononuclear cells isolated from **tuberculosis** (TB) patients, as well as from healthy tuberculin purified protein derivative-positive donors. In contrast to other RD1-encoded antigens, Rv3873 was also found to be recognized by a significant proportion of **Mycobacterium** bovis BCG-vaccinated donors. Epitope mapping performed with overlapping peptides revealed a broad pattern of T-cell recognition comprising both TB-specific epitopes and epitopes also recognized by BCG-vaccinated donors. The immunodominant epitope (residues 118 to 1.35) for both TB patients and BCG-vaccinated individuals was found to be highly conserved among a large number of PPE family members.

L12 ANSWER 8 OF 33 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 2004:5335 BIOSIS
DN PREV200400007544
TI Nucleic acids fragments and polypeptide fragments derived from M. **tuberculosis**.
AU Andersen, Peter [Inventor, Reprint Author]; Nielsen, Rikke [Inventor]; Oettinger, Thomas [Inventor]; Rasmussen, Peter Birk [Inventor]; **Rosenkrands, Ida** [Inventor]; Weldingh, Karin [Inventor]; Florio, Walter [Inventor]
CS Bronshoj, Denmark
ASSIGNEE: Statens Serum Institut, Copenhagen, Denmark
PI US 6641814 20031104
SO Official Gazette of the United States Patent and Trademark Office Patents, (Nov 4 2003) Vol. 1276, No. 1. http://www.uspto.gov/web/menu/patdata.html. e-file.
ISSN: 0098-1133 (ISSN print).
DT Patent
LA English
ED Entered STN: 17 Dec 2003
Last Updated on STN: 17 Dec 2003
AB The present invention is based on the identification and characterization of a number of M. **tuberculosis** derived novel proteins and protein fragments (SEQ ID NOs: 2, 4, 6, 8, 10, 12, 14, 16, 17-23, 42, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72-86, 88, 90, 92, 94, 141, 143, 145, 147, 149, 151, 153, and 168-171). The invention is directed to the polypeptides and immunologically active fragments thereof, the genes encoding them, immunological compositions such as vaccines and skin test reagents containing the polypeptides. Another part of the invention is based on the surprising discovery that fusions between ESAT-6 and MPT59 are superior immunogens compared to each of the unfused proteins, respectively.

L12 ANSWER 9 OF 33 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 2003:34905 BIOSIS
DN PREV200300034905

TI Specific acquired resistance in mice immunized with killed **mycobacteria**.
AU Agger, E. M.; Weldingh, K.; Olsen, A. W.; **Rosenkrands, I.**; Andersen, P. [Reprint Author]
CS Department of TB Immunology, Statens Serum Institut, Artillerivej 5, DK-2300, Copenhagen, Denmark
pa@ssi.dk
SO Scandinavian Journal of Immunology, (November 2002) Vol. 56, No. 5, pp. 443-447. print.
ISSN: 0300-9475 (ISSN print).
DT Article
LA English
ED Entered STN: 8 Jan 2003
Last Updated on STN: 8 Jan 2003
AB Past attempts to raise resistance against **Mycobacterium tuberculosis** using various preparations of killed **mycobacteria** have questioned the specificity of the generated immune response. In the present study, we have focused on the protective efficacy of experimental vaccines based on killed **mycobacteria**. We demonstrate that killed **mycobacteria** can confer high levels of protection, which can be adoptively transferred to recipient T-cell-deficient mice. Moreover, protective antigens can be found in the cell wall, membrane and cytosol of the **mycobacterial** cell, and hence emphasize the importance of searching for protective antigens in various compartments of the **mycobacterial** cell.

L12 ANSWER 10 OF 33 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 2002:364515 BIOSIS
DN PREV200200364515
TI Hypoxic response of **Mycobacterium tuberculosis** studied by metabolic labeling and proteome analysis of cellular and extracellular proteins.
AU **Rosenkrands, Ida** [Reprint author]; Slayden, Richard A.; Crawford, Janne; Aagaard, Claus; Barry, Clifton E., III; Andersen, Peter
CS Department of TB Immunology, Statens Serum Institut, 5 Artillerivej, DK-2300, Copenhagen S, Denmark
idr@ssi.dk
SO Journal of Bacteriology, (July, 2002) Vol. 184, No. 13, pp. 3485-3491. print.
CODEN: JOBAAY. ISSN: 0021-9193.
DT Article
LA English
ED Entered STN: 3 Jul 2002
Last Updated on STN: 3 Jul 2002
AB The events involved in the establishment of a latent infection with **Mycobacterium tuberculosis** are not fully understood, but hypoxic conditions are generally believed to be the environment encountered by the pathogen in the central part of the granuloma. The present study was undertaken to provide insight into M. **tuberculosis** protein expression in in vitro latency models where oxygen is depleted. The response of M. **tuberculosis** to low-oxygen conditions was investigated in both cellular and extracellular proteins by metabolic labeling, two-dimensional electrophoresis, and protein signature peptide analysis by liquid chromatography-mass spectrometry. By peptide mass fingerprinting and immunodetection, five proteins more abundant under low-oxygen conditions were identified from several lysates of M. **tuberculosis**: Rv0569, Rv2031c (HspX), Rv2623, Rv2626c, and Rv3841 (BfrB). In M. **tuberculosis** culture filtrates, two additional proteins, Rv0363c (Fba) and Rv2780 (Ald), were found in increased amounts under oxygen limitation. These results extend our understanding of the hypoxic response in M. **tuberculosis** and potentially provide important insights into the physiology of the latent bacilli.

L12 ANSWER 11 OF 33 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 2001:37127 BIOSIS
DN PREV200100037127

TI Towards the proteome of **Mycobacterium tuberculosis**.
AU **Rosenkrands, Ida** [Reprint author]; King, Angus; Weldingh, Karin; Moniatte, Marc; Moertz, Ejvind; Andersen, Peter
CS Department of TB Immunology, Statens Serum Institut, 5 Artillerivej, DK-2300, Copenhagen S, Denmark
idr@ssi.dk
SO Electrophoresis, (November, 2000) Vol. 21, No. 17, pp. 3740-3756. print.
CODEN: ELCTDN. ISSN: 0173-0835.
DT Article
LA English
ED Entered STN: 17 Jan 2001
Last Updated on STN: 12 Feb 2002
AB Human **tuberculosis** is caused by the intracellular pathogen **Mycobacterium tuberculosis**. Sequencing of the genome of M. **tuberculosis** strain H37Rv has predicted 3924 open reading frames, and enabled identification of proteins from this bacterium by peptide mass fingerprinting. Extracellular proteins from the culture medium and proteins in cellular extracts were examined by two-dimensional gel electrophoresis using immobilized pH gradient technology. By mass spectrometry and immunodetection, 49 culture filtrate proteins and 118 lysate proteins were identified, 83 of which were novel. To date, 288 proteins have been identified in M. **tuberculosis** proteome studies, and a list is presented which includes all identified proteins (available at http://www.ssi.dk/publichealth/tbimmun). The information obtained from the M. **tuberculosis** proteome so far is discussed in relation to the information obtained from the complete genome sequence.

L12 ANSWER 12 OF 33 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 2000:271567 BIOSIS
DN PREV200000271567
TI Mapping and identification of **Mycobacterium tuberculosis** proteins by two-dimensional gel electrophoresis, microsequencing and immunodetection.
AU **Rosenkrands, Ida**; Weldingh, Karin; Jacobsen, Susanne; Hansen, Christina Veggerby; Florio, Walter; Gianetri, Isabella; Andersen, Peter [Reprint author]
CS Department of TB Immunology, Statens Serum Institute, 5 Artillerivej, DK-2300, Copenhagen S, Denmark
SO Electrophoresis, (March, 2000) Vol. 21, No. 5, pp. 935-948. print.
CODEN: ELCTDN. ISSN: 0173-0835.
DT Article
LA English
ED Entered STN: 30 Jun 2000
Last Updated on STN: 5 Jan 2002
AB **Mycobacterium tuberculosis** is the infectious agent giving rise to human **tuberculosis**. The entire genome of M. **tuberculosis**, comprising approximately 4000 open reading frames, has been sequenced. The huge amount of information released from this project has facilitated proteome analysis of M. **tuberculosis**. Two-dimensional polyacrylamide gel electrophoresis (2-D PAGE) was applied to fractions derived from M. **tuberculosis** culture filtrate, cell wall, and cytosol, resulting in the resolution of 376, 413, and 395 spots, respectively, in silver-stained gels. By microsequencing and immunodetection, 38 culture filtrate proteins were identified and mapped, of which 12 were identified for the first time. In the same manner, 23 cell wall proteins and 19 cytosol proteins were identified and mapped, with 9 and 10, respectively, being novel proteins. One of the novel proteins was not predicted in the genome project, and for four of the identified proteins alternative start codons were suggested. Fourteen of the culture filtrate proteins were proposed to possess signal sequences. Seven of these proteins were microsequenced and the N-terminal sequences obtained confirmed the prediction. The data presented here are an important complement to the genetic information, and the established 2-D PAGE maps (also available at: www.ssi.dk/publichealth/tbimmun) provide a basis for comparative studies of protein expression.

L12 ANSWER 13 OF 33 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

AN 2000:110101 BIOSIS
DN PREV200000110101
TI ESAT-6 subunit vaccination against **Mycobacterium tuberculosis**.
AU Brandt, Lise; Elhay, Martin; **Rosenkrands, Ida**; Lindblad, Erik B.; Andersen, Peter [Reprint author]
CS Department of TB Immunology, Statens Serum Institut, Artillerivej 5, 2300, Copenhagen S., Denmark
SO Infection and Immunity, (Feb., 2000) Vol. 68, No. 2, pp. 791-795. print. CODEN: INFIBR. ISSN: 0019-9567.
DT Article
LA English
ED Entered STN: 22 Mar 2000
Last Updated on STN: 3 Jan 2002
AB The ESAT-6 antigen from **Mycobacterium tuberculosis** is a dominant target for cell-mediated immunity in the early phase of **tuberculosis** (TB) in TB patients as well as in various animal models. The purpose of our study was to evaluate the potential of ESAT-6 in an experimental TB vaccine. We started out using dimethyl dioctadecylammonium bromide (DDA), an adjuvant which has been demonstrated to be efficient for the induction of cellular immune responses and has been used successfully before as a delivery system for TB vaccines. Here we demonstrate that, whereas immune responses to both short-term-culture filtrate and AG85B are efficiently induced with DDA, this adjuvant was inefficient for the induction of immune responses to ESAT-6. Therefore, we investigated the modulatory effect of monophosphoryl lipid A (MPL), an immunomodulator which in different combinations has demonstrated strong adjuvant activity for both cellular and humoral immune responses. We show in the present study that vaccination with ESAT-6 delivered in a combination of MPL and DDA elicited a strong ESAT-6-specific T-cell response and protective immunity comparable to that achieved with **Mycobacterium** bovis BCG.

L12 ANSWER 14 OF 33 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 2000:104643 BIOSIS
DN PREV200000104643
TI Comparative evaluation of low-molecular-mass proteins from **Mycobacterium tuberculosis** identifies members of the ESAT-6 family as immunodominant T-cell antigens.
AU Skjot, Rikke Louise Vinther; Oettinger, Thomas; **Rosenkrands, Ida**; Ravn, Pernille; Brock, Inger; Jacobsen, Susanne; Andersen, Peter [Reprint author]
CS Department of TB Immunology, Statens Serum Institut, Artillerivej 5, DK-2300, Copenhagen S, Denmark
SO Infection and Immunity, (Jan., 2000) Vol. 68, No. 1, pp. 214-220. print. CODEN: INFIBR. ISSN: 0019-9567.
DT Article
LA English
ED Entered STN: 22 Mar 2000
Last Updated on STN: 3 Jan 2002
AB Culture filtrate from **Mycobacterium tuberculosis** contains protective antigens of relevance for the generation of a new antituberculosis vaccine. We have identified two previously uncharacterized M. **tuberculosis** proteins (TB7.3 and TB10.4) from the highly active low-mass fraction of culture filtrate. The molecules were characterized, mapped in a two-dimensional electrophoresis reference map of short-term culture filtrate, and compared with another recently identified low-mass protein, CFP10 (F. X. Berthet, P. B. Rasmussen, I. Rosenkrands, P. Andersen, and B. Gicquel. Microbiology 144:3195-3203, 1998), and the well-described ESAT-6 antigen. Genetic analyses demonstrated that TB10.4 as well as CFP10 belongs to the ESAT-6 family of low-mass proteins, whereas TB7.3 is a low-molecular-mass protein outside this family. The proteins were expressed in Escherichia coli, and their immunogenicity was tested in cultures of peripheral blood mononuclear cells from human **tuberculosis** (TB) patients, **Mycobacterium** bovis BCG-vaccinated donors, and nonvaccinated donors. The two ESAT-6 family members, TB10.4 and CFP10, were very strongly recognized and induced gamma interferon release at the same level

(CFP10) as or at an even higher level (TB10.4) than ESAT-6. The non-ESAT-6 family member, TB7.3, for comparison, was recognized at a much lower level. CFP10 was found to distinguish TB patients from BCG-vaccinated donors and is, together with ESAT-6, an interesting candidate for the diagnosis of TB. The striking immunodominance of antigens within the ESAT-6 family is discussed, and hypotheses are presented to explain this targeting of the immune response during TB infection.

L12 ANSWER 15 OF 33 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 2000:34114 BIOSIS
DN PREV200000034114
TI Differential T-cell recognition of native and recombinant **Mycobacterium tuberculosis** GroES.
AU **Rosenkrands, Ida**; Weldingh, Karin; Ravn, Pernille; Brandt, Lise; Hojrup, Peter; Rasmussen, Peter Birk; Coates, Anthony R.; Singh, Mahavir; Mascagni, Paolo; Andersen, Peter [Reprint author]
CS Department of TB Immunology, Statens Serum Institut, 5 Artillerivej, DK-2300, Copenhagen S, Denmark
SO Infection and Immunity, (Nov., 1999) Vol. 67, No. 11, pp. 5552-5558. print.
CODEN: INFIBR. ISSN: 0019-9567.
DT Article
LA English
ED Entered STN: 19 Jan 2000
Last Updated on STN: 31 Dec 2001
AB **Mycobacterium tuberculosis** GroES was purified from culture filtrate, and its identity was confirmed by immunoblot analysis and N-terminal sequencing. Comparing the immunological recognition of native and recombinant GroES, we found that whereas native GroES elicited a strong proliferative response and release of gamma interferon-gamma by peripheral blood mononuclear cells from healthy tuberculin reactors, the recombinant protein failed to do so. The same difference in immunological recognition was observed in a mouse model of TB infection. Both the native and recombinant preparations were recognized by mice immunized with the recombinant protein. Biochemical characterization including sodium dodecyl sulfate-polyacrylamide gel electrophoresis, two-dimensional electrophoresis, and mass spectrometry analysis of both proteins demonstrated no differences between the native and recombinant forms of GroES except for the eight additional N-terminal amino acids derived from the fusion partner inrecombinant GroES. The recombinant fusion protein, still tagged with the maltose binding protein, was recognized by T cells isolated from TB-infected mice if mixed with culture filtrate before affinity purification on an amylose column. The maltose binding protein treated in the same manner as a control preparation was not recognized. Based on the data presented, we suggest that the association of biologically active molecules from culture filtrate with the chaperone GroES may be responsible for the observed T-cell recognition of the native preparation.

L12 ANSWER 16 OF 33 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 1999:197118 BIOSIS
DN PREV199900197118
TI Human T cell responses to the ESAT-6 antigen from **Mycobacterium tuberculosis**.
AU Ravn, Pernille; Demissie, Abebech; Eguale, Tewodros; Wondwosson, Hailu; Lein, David; Amoudy, Hanady A.; Mustafa, Abu S.; Jensen, Axel Kok; Holm, Arne; **Rosenkrands, Ida**; Oftung, Fredrik; Olobo, Joseph; von Reyn, Fordham; Andersen, Peter [Reprint author]
CS Dept. of TB Immunology, Statens Serum Institut, Artillerivej 5, 2300 S, Denmark
SO Journal of Infectious Diseases, (March, 1999) Vol. 179, No. 3, pp. 637-645. print.
CODEN: JIDIAQ. ISSN: 0022-1899.
DT Article
LA English
ED Entered STN: 25 May 1999

Last Updated on STN: 25 May 1999

AB Human T cell responses to ESAT-6 and eight synthetic overlapping peptides were investigated in **tuberculosis** (TB) patients and control subjects from regions of high and low endemicity for TB. ESAT-6 was recognized by 65% of all tuberculin purified protein derivative-responsive TB patients, whereas only 2 of 29 bacille Calmette-Guerin-vaccinated Danish healthy donors recognized this molecule. In Ethiopia, a high frequency (58%) of healthy contacts of TB patients recognized ESAT-6. All of the peptides were recognized by some donors, indicating that the molecule holds multiple epitopes. Danish and Ethiopian patients differed in the fine specificity of their peptide responses. Recognition of the C-terminal region (aa 72-95) was predominant in Danish patients, whereas recognition of aa 42-75 was predominant in Ethiopia. The relationship of these differences to the distribution of HLA types in the two populations is discussed. This study demonstrates that ESAT-6 is frequently recognized during early infection and holds potential as a component of a future TB-specific diagnostic reagent.

L12 ANSWER 17 OF 33 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

AN 1999:28278 BIOSIS

DN PREV199900028278

TI A **Mycobacterium tuberculosis** operon encoding ESAT-6 and a novel low-molecular-mass culture filtrate protein (CFP-10).

AU Berthet, Fancois-Xavier [Reprint author]; Rasmusse, Peter Birk; **Rosenkrands, Ida**; Andersen, Peter; Gicquel, Brigitte

CS Unite Geneitque Mycobacteriene, Inst. Pasteur, 25 rue Dr Roux, 75724 Paris Cedex 15, France

SO Microbiology (Reading), (Nov., 1998) Vol. 144, No. 11, pp. 3195-3203. print.
ISSN: 1350-0872.

DT Article

LA English

OS Genbank-AF004671

ED Entered STN: 3 Feb 1999
Last Updated on STN: 3 Feb 1999

AB The early secreted antigenic target 6 kDa protein (ESAT-6) is a potent T-cell protein antigen synthesized by **Mycobacterium tuberculosis**. Its corresponding gene (esat-6) is located in RD1, a 10 kb DNA region deleted in the attenuated **tuberculosis** vaccine strain **Mycobacterium** bovis BCG. The promoter region of M. **tuberculosis** esat-6 was cloned and characterized. A new gene, designated lhp and cotranscribed with esat-6, was identified. Moreover, computer searches in the M. **tuberculosis** genome identified 13 genes related to the lhp/esat-6 operon, defining a novel gene family. The transcription initiation sites of the lhp/esat-6 operon were mapped using M. **tuberculosis** RNA. The corresponding promoter signals were not recognized in **Mycobacterium** smegmatis, in which transcription of lhp/esat-6 is initiated at different locations. The M. **tuberculosis** lhp gene product was identified as CFP-10, a low-molecular-mass protein found in the short-term culture filtrate. These results show that the genes encoding CFP-10 and ESAT-6 are transcribed together in M. **tuberculosis** and that both code for small exported proteins.

L12 ANSWER 18 OF 33 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

AN 1998:393332 BIOSIS

DN PREV199800393332

TI Two-dimensional electrophoresis for analysis of **Mycobacterium tuberculosis** culture filtrate and purification and characterization of six novel proteins.

AU Weldingh, Karin; **Rosenkrands, Ida**; Jacobsen, Susanne; Rasmussen, Peter Birk; Elhay, Martin J.; Andersen, Peter [Reprint author]

CS Dep. TB Immunol., Statens Serum Inst., Artillerivej 5, DK-2300 Copenhagen, Denmark

SO Infection and Immunity, (Aug., 1998) Vol. 66, No. 8, pp. 3492-3500. print.
CODEN: INFIBR. ISSN: 0019-9567.

DT Article

LA English
ED Entered STN: 10 Sep 1998
Last Updated on STN: 10 Sep 1998
AB Culture filtrate from **Mycobacterium tuberculosis** contains molecules which promote high levels of protective immunity in animal models of subunit vaccination against **tuberculosis**. We have used two-dimensional electrophoresis for analysis and purification of six novel M. **tuberculosis** culture filtrate proteins (CFPs): CFP17, CFP20, CFP21, CFP22, CFP25, and CFP28. The proteins were tested for recognition by M. **tuberculosis**-reactive memory cells from different strains of inbred mice and for their capacity to induce a skin test response in M. **tuberculosis**-infected guinea pigs. CFP17, CFP20, CFP21 and CFP25 induced both a high gamma interferon release and a strong delayed-type hypersensitivity response, and CFP21 was broadly recognized by different strains of inbred mice. N-terminal sequences were obtained for the six proteins, and the corresponding genes were identified in the Sanger M. **tuberculosis** genome database. In parallel we established a two-dimensional electrophoresis reference may of short-term culture filtrate components and mapped novel proteins as well as already-known CFP.

L12 ANSWER 19 OF 33 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 1998:304925 BIOSIS
DN PREV199800304925
TI Identification and characterization of a 29-kilodalton protein from **Mycobacterium tuberculosis** culture filtrate recognized by mouse memory effector cells.
AU **Rosenkrands, Ida**; Rasmussen, Peter Birk; Carnio, Markus; Jacobsen, Susanne; Theisen, Michael; Andersen, Peter [Reprint author]
CS Dep. TB Immunol., Statens Serum Inst., 5 Artillerivej, DK-2300 Copenhagen S, Denmark
SO Infection and Immunity, (June, 1998) Vol. 66, No. 6, pp. 2728-2735. print. CODEN: INFIBR. ISSN: 0019-9567.
DT Article
LA English
OS Genbank-Y12820; EMBL-Y12820; DDBJ-Y12820
ED Entered STN: 15 Jul 1998
Last Updated on STN: 15 Jul 1998
AB Culture filtrate proteins from **Mycobacterium tuberculosis** induce protective immunity in various animal models of **tuberculosis**. Two molecular mass regions (6 to 10 kDa and 24 to 36 kDa) of short-term culture filtrate are preferentially recognized by Th1 cells in animal models as well as by patients with minimal disease. In the present study, the 24- to 36-kDa region has been studied, and the T-cell reactivity has been mapped in detail. Monoclonal antibodies were generated, and one monoclonal antibody, HYB 71-2, with reactivity against a 29-kDa antigen located in the highly reactive region below the antigen 85 complex was selected. The 29-kDa antigen (CFP29) was purified from M. **tuberculosis** short-term culture filtrate by thiophilic adsorption chromatography, anion-exchange chromatography, and gel filtration. In its native form, CFP29 forms a polymer with a high molecular mass. CFP29 was mapped in two-dimensional electrophoresis gels as three distinct spots just below the antigen 85 complex component MPT59. CFP29 is present in both culture filtrate and the membrane fraction from M. **tuberculosis**, suggesting that this antigen is released from the envelope to culture filtrate during growth. Determination of the N-terminal amino acid sequence allowed cloning and sequencing of the cfp29 gene. The nucleotide sequence showed 62% identity to the bacteriocin Linocin from Brevibacterium linens. Purified recombinant histidine-tagged CFP29 and native CFP29 had similar T-cell stimulatory properties, and they both elicited the release of high levels of gamma interferon from mouse memory effector cells isolated during the recall of protective immunity to **tuberculosis**. Interspecies analysis by immunoblotting and PCR demonstrated that CFP29 is widely distributed in **mycobacterial** species.

L12 ANSWER 20 OF 33 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

AN 1996:76919 BIOSIS
DN PREV199698649054
TI Evidence for occurrence of the ESAT-6 protein in **Mycobacterium tuberculosis** and virulent **Mycobacterium** bovis and for its absence in **Mycobacterium** bovis BCG.
AU Harboe, Morten [Reprint author]; Oettinger, Thomas; Wiker, Harald Gotten; **Rosenkrands, Ida**; Andersen, Peter
CS Inst. Immunol. Rheumatol., Univ. Oslo, N-0172 Oslo, Norway
SO Infection and Immunity, (1996) Vol. 64, No. 1, pp. 16-22.
CODEN: INFIBR. ISSN: 0019-9567.
DT Article
LA English
ED Entered STN: 27 Feb 1996
Last Updated on STN: 27 Feb 1996
AB ESAT-6 is a secreted protein present in the short-term culture filtrate of **Mycobacterium tuberculosis** after growth on a synthetic Sauton medium. ESAT-6 has recently been demonstrated to induce strong T-cell responses in a mouse model of memory immunity after infection with M. **tuberculosis**. In Western blotting (immunoblotting), the monoclonal antibody HYB76-8. reacting with ESAT-6, gave a 6-kDa band in culture filtrates from M. **tuberculosis** and virulent **Mycobacterium** bovis. A distinct band in the 24-kDa region was observed in filtrates from four of eight substrains of M. bovis BCG that produced high levels of MPB64, while no band occurred in the 6-kDa region with any of these BCG substrains. Southern blotting and PCR experiments with genomic **mycobacterial** DNA showed the presence of the esat-6 gene in reference strains and clinical isolates of V. **tuberculosis** as well as in virulent M. bovis. The esat-6 gene could not be demonstrated in any of the eight substrains of M. bovis BCG tested by these techniques. Two gene deletions that distinguish M. bovis BCG from virulently M. bovis have thus now been demonstrated. Deletion of mpb64 affects four of the eight substrains tested; deletion of esat-6 affects all of them. The reaction of HYB76-8 at 26 kDa with four of the BCG substrains was demonstrated to result from cross-reactivity with MPB64. HYB76-8 was also shown to cross-react with the A, B, and C components of the antigen 85 complex and MPT51.

L12 ANSWER 21 OF 33 CABA COPYRIGHT 2006 CABI on STN
AN 2003:125917 CABA
DN 20033096065
TI Specific delayed-type hypersensitivity responses to ESAT-6 identify **tuberculosis**-infected cattle
AU Pollock, J. M.; McNair, J.; Bassett, H.; Cassidy, J. P.; Costello, E.; Aggerbeck, H.; **Rosenkrands, I.**; Andersen, P.
CS Veterinary Sciences Division, Department of Agriculture and Rural Development, Stoney Rd., Stormont, Belfast BT4 3SD, UK. john.pollock@dardni.gov.uk
SO Journal of Clinical Microbiology, (2003) Vol. 41, No. 5, pp. 1856-1860. 34 ref.
Publisher: American Society for Microbiology (ASM). Washington
ISSN: 0095-1137
DOI: 10.1128/JCM.41.5.1856-1860.2003
CY United States
DT Journal
LA English
ED Entered STN: 12 Aug 2003
Last Updated on STN: 12 Aug 2003
AB Human and bovine **tuberculosis** have long been detected by skin testing with purified protein derivative (PPD), a complex mix of partly denatured **mycobacterial** antigens with suboptimal specificity. In the present study, skin tests based on ESAT-6, a recombinantly produced antigen highly specific for **tuberculosis** infection, were investigated. Although ESAT-6 was strongly recognized in vitro and induced high levels of gamma interferon, initial investigations demonstrated that higher doses of ESAT-6 than of PPD were needed to induce substantial delayed-type hypersensitivity reactions. Also, the kinetics of the skin test response differed for the two reagents; PPD showed maximal response at 72 h, but the response to ESAT-6 often peaked later at 96 h. Tests based on an optimized strategy (400 [micro]g of ESAT-6 measured between 72

and 96 h), in cattle infected with **Mycobacterium** bovis (n=22) and animals sensitized by exposure to environmental **mycobacteria** showed ESAT-6 to have a promising diagnostic potential (sensitivity, 82%; specificity, 100%; optimal cutoff, 3 mm), compared with PPD (sensitivity, 86%; specificity, 90%; optimal cutoff, 4 mm). Larger investigations are required to refine cutoff points for any new diagnostic test, but the present results indicate great potential for skin tests based on specific antigens for accurate in vivo diagnosis of **tuberculosis**.

L12 ANSWER 22 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2005:119461 CAPLUS
DN 142:334537
TI Assessing the serodiagnostic potential of 35 **Mycobacterium tuberculosis** proteins and identification of four novel serological antigens
AU Weldingh, Karin; **Rosenkrands, Ida**; Okkels, Limei Meng; Doherty, T. Mark; Andersen, Peter
CS Department of Infectious Disease Immunology, Statens Serum Institut, Copenhagen, Den.
SO Journal of Clinical Microbiology (2005), 43(1), 57-65
CODEN: JCMIDW; ISSN: 0095-1137
PB American Society for Microbiology
DT Journal
LA English
AB Improved diagnostic reagents are needed for the detection of **Mycobacterium tuberculosis** infections, and the development of a serodiagnostic test would complement presently available diagnostic methods. The aim of the present study was to identify novel serol. targets for use for the future serodiagnosis of **tuberculosis** (TB). The authors cloned and expressed 35 M. **tuberculosis** proteins as recombinant proteins in Escherichia coli and analyzed their serodiagnostic potentials. By a two-step selection process, four superior seroantigens, TB9.7, TB15.3, TB16.3, and TB51, were identified, none of which has been described before. The four novel antigens were tested with panels of sera from smear-pos. and smear-neg. TB patients from areas both where TB is endemic and where TB is not endemic, with recognition frequencies ranging from 31 to 93% and with a specificity of at least 97%. The single most potent antigen was TB16.3, which had a sensitivity of 48 to 55% with samples from Danish resident TB patients and a sensitivity of 88 to 98% with samples from African TB patients. Importantly, the TB16.3 and the TB9.7 antigens were recognized by more than 85% of the samples from TB patients coinfected with human immunodeficiency virus, a patient group for which it is in general difficult to detect M. **tuberculosis**-specific antibodies.
RE.CNT 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 23 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2005:55095 CAPLUS
DN 142:133056
TI Vaccines comprising cationic surfactant and lipid extract of **Mycobacterium** BCG as adjuvant for treating cancer, allergy and autoimmune disease
IN Agger, Else Marie; Andersen, Peter; Olsen, Anja; **Rosenkrands, Ida**
PA Statens Serum Institut, Den.
SO PCT Int. Appl., 52 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2005004911	A2	20050120	WO 2004-DK488	20040707
WO 2005004911	A3	20050217		
WO 2005004911	B1	20050317		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,

NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

	AU 2004255393	A1	20050120	AU 2004-255393	20040707
	CA 2531825	AA	20050120	CA 2004-2531825	20040707
PRAI	DK 2003-1046	A	20030709		
	DK 2003-1403	A	20030927		
	WO 2004-DK488	W	20040707		

AB The present invention provides a vaccine adjuvant consisting of a combination of a surfactant i.e. dimethyldeoctadecylammonium-bromide/chloride (DDA) and a lipid extract from **Mycobacterium** bovis BCG. The total lipid extract contains both apolar lipids, polar lipids, and lipids of intermediate polarity of which the apolar lipids were found to induce the most powerful immune responses. The total lipids may be extracted with chloroform/methanol and re-dissolved in water before the addition of surfactant. This preparation may be used to induce prominent cell-mediated immune responses in a mammal in order to combat pathogens, or as a treatment for cancer.

L12 ANSWER 24 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:1050159 CAPLUS
DN 142:312800
TI The proteome of **Mycobacterium tuberculosis**
AU Belisle, John T.; Braunstein, Miriam; **Rosenkrands, Ida**; Andersen, Peter
CS Mycobacteria Research Laboratories, Department of Microbiology, Immunology, and Pathology, Colorado State University, Fort Collins, CO, 80523, USA
SO Tuberculosis and the Tubercle Bacillus (2005), 235-260. Editor(s): Cole, Stewart T. Publisher: American Society for Microbiology, Washington, D. C. CODEN: 69GFRV; ISBN: 1-55581-295-3
DT Conference; General Review
LA English
AB A review on current understanding of the **Mycobacterium tuberculosis** proteome, including unique aspects and the approaches being applied.
RE.CNT 228 THERE ARE 228 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 25 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:490265 CAPLUS
DN 141:52841
TI Cloning and characterization of genes encoding culture filtrate antigens involved in protective immunity to M. **tuberculosis**, and use thereof as vaccines and in diagnosis
IN Andersen, Peter; Skiot, Rikke; Oettinger, Thomas; Rasmussen, Peter Birk; **Rosenkrands, Ida**; Weldingh, Karin; Florio, Walter
PA Den.
SO U.S. Pat. Appl. Publ., 109 pp., Cont.-in-part of U.S. 6,641,814. CODEN: USXXCO
DT Patent
LA English
FAN.CNT 10

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004115211	A1	20040617	US 2003-620246	20030715
	US 6641814	B1	20031104	US 1998-50739	19980330
	EP 1449922	A2	20040825	EP 2004-76605	19980401
	EP 1449922	A3	20041117		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
PRAI	DK 1997-376	A	19970402		
	US 1997-44624P	P	19970418		
	DK 1997-1277	A	19971110		
	US 1998-70488P	P	19980105		

US 1998-50739 A2 19980330
DK 1998-1281 A 19981008
EP 1998-913536 A3 19980401

AB The present invention is based on the identification and characterization of a number of M. **tuberculosis** derived antigens, isolated from culture filtrates of T cells from memory immune mice by T cell epitope mapping. The invention is directed to the polypeptides and immunol. active fragments thereof, the genes encoding them, immunol. compns. such as vaccines and skin test reagents containing the polypeptides. Another part of the invention is based on the surprising discovery that fusions between ESAT-6 and MPT59 are superior immunogens compared to each of the unfused proteins, resp. These antigens are suitable for use in vaccines and in diagnosis of infections.

L12 ANSWER 26 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:80234 CAPLUS
DN 140:144687
TI Molecular differences between species of the **Mycobacterium tuberculosis** complex by genetic deletion markers and genetic marker-encoded antigens
IN Behr, Marcel; Small, Peter; Wilson, Michael A.; Schoolnik, Gary; Aagaard, Claus; **Rosenkrands, Ida**; Weldingh, Karin; Andersen, Peter
PA Can.
SO U.S. Pat. Appl. Publ., 83 pp., Cont.-in-part of U.S. Ser. No. 894,844.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2004018574	A1	20040129	US 2003-388902	20030314
US 6291190	B1	20010918	US 1999-318191	19990525
US 2002176873	A1	20021128	US 2001-894844	20010627
US 6686166	B2	20040203		
US 2004063923	A1	20040401	US 2003-647089	20030821
WO 2004083448	A2	20040930	WO 2004-US7668	20040311
WO 2004083448	A3	20060216		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2006002953	A1	20060105	US 2005-143401	20050601
PRAI US 1998-97936P	P	19980825		
US 1999-318191	A1	19990525		
US 2001-894844	A2	20010627		
US 2003-388902	A	20030314		
US 2003-647089	B1	20030821		

AB Specific genetic deletions are identified that serve as markers to distinguish between avirulent and virulent **mycobacteria** strains, including M. bovis, M. bovis BCG strains, M. **tuberculosis** (M. tb.) isolates, and bacteriophages that infect **mycobacteria**. These deletions are used as genetic markers to distinguish between the different **mycobacteria**. In one embodiment of the invention, a plurality of antigens encoded by the provided genetic markers is used in the diagnosis of M. **tuberculosis** infection. Alternatively, the deleted genes are identified in the M. tb. genome sequence, and are then reintroduced by recombinant methods into BCG or other vaccine strains, in order to improve the efficacy of vaccination.

L12 ANSWER 27 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:60336 CAPLUS
DN 140:144681

TI **Mycobacterium** low oxygen-induced antigens and genes for vaccines or diagnostics of **tuberculosis**
IN Andersen, Peter; **Rosenkrands, Ida**; Stryhn, Anette
PA Statens Serum Institut, Den.
SO PCT Int. Appl., 76 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004006952	A2	20040122	WO 2003-DK477	20030708
	WO 2004006952	A3	20040318		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2003242504	A1	20040202	AU 2003-242504	20030708
	EP 1523331	A2	20050420	EP 2003-763613	20030708
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	US 2004057963	A1	20040325	US 2003-617038	20030711
PRAI	DK 2002-1098	A	20020713		
	US 2002-401725P	P	20020807		
	WO 2003-DK477	W	20030708		

AB The present invention is based on a number of M. **tuberculosis** derived proteins and protein fragments which are induced during the latent stage of infection characterized by low oxygen tension in the microenvironment of the infecting TB-bacteria. The invention is directed to the use of these polypeptides, immunol. active fragments thereof and the genes encoding them for immunol. compns. such as therapeutic vaccines and diagnostic reagents.

L12 ANSWER 28 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2001:475998 CAPLUS
DN 136:34028
TI Preparation of culture filtrate proteins from **Mycobacterium tuberculosis**
AU **Rosenkrands, Ida**; Andersen, Peter
CS Department of TB Immunology, Statens Serum Institut, Copenhagen, Den.
SO Methods in Molecular Medicine (2001), 54(Mycobacterium tuberculosis Protocols), 205-215
CODEN: MMMEFN
PB Humana Press Inc.
DT Journal; General Review
LA English
AB A review on the production of culture filtrate suitable for protein identification. Topics covered include culturing M. **tuberculosis** for culture filtrate preparation; culture filtrate analyses; M. **tuberculosis** cultures; harvest of culture filtrate; ultrafiltration and ammonium sulfate precipitation; and protein qualification.
RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 29 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2000:260319 CAPLUS
DN 132:292711
TI Tb vaccine and diagnostic based on antigens from the **Mycobacterium tuberculosis** cell
IN Andersen, Peter; Weldingh, Karin; Hansen, Christina Veggerby; Florio, Walter; Okkels, Li Mei Meng; Skjot, Rikke Louise Vinther; **Rosenkrands, Ida**
PA Statens Serum Institut, Den.

SO PCT Int. Appl., 126 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 10

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000021983	A2	20000420	WO 1999-DK538	19991008
	WO 2000021983	A3	20001123		
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2346218	AA	20000420	CA 1999-2346218	19991008
	AU 9960784	A1	20000501	AU 1999-60784	19991008
	AU 766093	B2	20031009		
	EP 1117683	A2	20010725	EP 1999-947257	19991008
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, IE, SI, LT, LV, FI, RO				
PRAI	DK 1998-1281	A	19981008		
	US 1999-116673P	P	19990121		
	WO 1999-DK538	W	19991008		

AB The present invention relates to substantially pure polypeptides, which has a sequence identity of at least 80 % to an amino acid sequence disclosed, or which is a subsequence of at least 6 amino acids thereof, preferably a B- or T-cell epitope of the polypeptides disclosed. The polypeptide or the subsequence thereof has at least one of nine properties. The use of the disclosed polypeptides in medicine is disclosed, preferably as vaccine or diagnostic agents relating to virulent **Mycobacterium**. The invention further relates to the nucleotide sequences disclosed and the nucleotide sequences encoding the disclosed polypeptides. Medical and non-medical use of the nucleotide sequences is disclosed.

L12 ANSWER 30 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1998:684968 CAPLUS
DN 129:300060
TI Novel antigens of **Mycobacterium tuberculosis** culture filtrates and the genes encoding and their diagnostic and prophylactic use
IN Andersen, Peter; Nielsen, Rikke; **Rosenkrands, Ida**; Weldingh, Karin; Rasmussen, Peter Birk; Oettinger, Thomas; Florio, Walter
PA Statens Serum Institut, Den.
SO PCT Int. Appl., 264 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 10

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9844119	A1	19981008	WO 1998-DK132	19980401
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	CA 2285625	AA	19981008	CA 1998-2285625	19980401
	AU 9868204	A1	19981022	AU 1998-68204	19980401
	AU 740545	B2	20011108		
	EP 972045	A1	20000119	EP 1998-913536	19980401
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2001515359	T2	20010918	JP 1998-541074	19980401

EP 1449922 A2 20040825 EP 2004-76605 19980401
EP 1449922 A3 20041117
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY
CA 2319380 AA 19990520 CA 1998-2319380 19981008
WO 9924577 A1 19990520 WO 1998-DK438 19981008
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
EP 1029053 A1 20000823 EP 1998-947412 19981008
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI
NZ 504951 A 20010629 NZ 1998-504951 19981008
AU 750173 B2 20020711 AU 1998-94338 19981008
EP 1484405 A1 20041208 EP 2004-77071 19981008
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY
PRAI DK 1997-376 A 19970402
US 1997-44624P P 19970418
DK 1997-1277 A 19971110
US 1998-70488P P 19980105
EP 1998-913536 A3 19980401
WO 1998-DK132 W 19980401
EP 1998-947412 A3 19981008
WO 1998-DK438 W 19981008

AB Culture filtrate antigens of **Mycobacterium tuberculosis** are characterized and cDNAs encoding them are cloned. Some of the proteins are antigenic and suitable for use in vaccines and in diagnosis of infections, e.g. skin tests. A fusion protein of two of these antigens is a superior immunogen compared to the unfused proteins. Individual antigens from culture filtrates were identified by T cell mapping using T cells from memory immune mice. Genes for individual antigens were then cloned by screening a λgt11 expression vector with monoclonal antibodies. Manufacture of individual antigens with hexahistidine affinity labels is described.

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 31 OF 33 USPATFULL on STN
AN 2006:9671 USPATFULL
TI Compositions and methods for stabilizing lipid based adjuvant formulations using glycolipids
IN Davidsen, Jesper, Solroed Strand, DENMARK
Andersen, Peter, Broenshoej, DENMARK
Rosenkrands, Ida, Vaerloese, DENMARK
PA Statens Serum Institut, Copenhagen S, DENMARK (non-U.S. corporation)
PI US 2006008519 A1 20060112
AI US 2005-174955 A1 20050705 (11)
PRAI DK 2004-1070 20040707
US 2004-585908P 20040707 (60)
DT Utility
FS APPLICATION
LREP HOWSON AND HOWSON, ONE SPRING HOUSE CORPORATION CENTER, BOX 457, 321 NORRISTOWN ROAD, SPRING HOUSE, PA, 19477, US
CLMN Number of Claims: 18
ECL Exemplary Claim: 1
DRWN 11 Drawing Page(s)
LN.CNT 1191
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to liposome formulations that are physically stable. In particular the present invention relates to steric stabilization of cationic liposomes by incorporating glycolipids into the liposomes. The stabilized liposomes can be used either as an adjuvant for antigenic components or as a drug delivery system. In

particular the invention relates to vaccines with adjuvants in aqueous media for immunization, where the final product is stable.

L12 ANSWER 32 OF 33 USPATFULL on STN
AN 2004:76186 USPATFULL
TI Therapeutic TB vaccine
IN Andersen, Peter, Bronshoj, DENMARK
Rosenkrands, Ida, Vaerlose, DENMARK
Stryhn, Anette, Virum, DENMARK
PI US 2004057963 A1 20040325
AI US 2003-617038 A1 20030711 (10)
PRAI DK 2002-1098 20020713
US 2002-401725P 20020807 (60)
DT Utility
FS APPLICATION
LREP HOWSON AND HOWSON, ONE SPRING HOUSE CORPORATION CENTER, BOX 457, 321 NORRISTOWN ROAD, SPRING HOUSE, PA, 19477
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN 7 Drawing Page(s)
LN.CNT 6018
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Therapeutic vaccines comprising polypeptides expressed during the latent stage of **mycobacteria** infection are provided, as are multiphase vaccines, and methods for treating and preventing **tuberculosis**.

L12 ANSWER 33 OF 33 USPATFULL on STN
AN 2002:178550 USPATFULL
TI Nucleic acid fragments and polypeptide fragments derived from M. **tuberculosis**
IN Andersen, Peter, Bronshoj, DENMARK
Nielsen, Rikke, Frederiksberg C, DENMARK
Oettinger, Thomas, Hellerup, DENMARK
Rasmussen, Peter Birk, Kobenhaven O, DENMARK
Rosenkrands, Ida, Kobenhaven O, DENMARK
Weldingh, Karin, Kobenhaven N, DENMARK
Florio, Walter, Frederiksberg C, DENMARK
PA STATENS SERUM INSTITUT (non-U.S. corporation)
PI US 2002094336 A1 20020718
AI US 2001-791171 A1 20010220 (9)
RLI Division of Ser. No. US 1998-50739, filed on 30 Mar 1998, PENDING
PRAI DK 1997-376 19970402
DK 1997-1277 19971110
US 1997-44624P 19970418 (60)
US 1998-70488P 19980105 (60)
DT Utility
FS APPLICATION
LREP FROMMER LAWRENCE & HAUG LLP, 745 FIFTH AVENUE, NEW YORK, NY, 10151
CLMN Number of Claims: 53
ECL Exemplary Claim: 1
DRWN 6 Drawing Page(s)
LN.CNT 6134
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is based on the identification and characterization of a number of M. **tuberculosis** derived novel proteins and protein fragments (SEQ ID NOs: 2, 4, 6, 8, 10, 12, 14, 16, 17-23, 42, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72-86, 88, 90, 92, 94, 141, 143, 145, 147, 149, 151, 153, and 168-171). The invention is directed to the polypeptides and immunologically active fragments thereof, the genes encoding them, immunological compositions such as vaccines and skin test reagents containing the polypeptides. Another part of the invention is based on the surprising discovery that fusions between ESAT-6 and MPT59 are superior immunogens compared to each of the unfused proteins, respectively.

=> e weldingh karin/au
E1 54 WELDINGH K/AU

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E2            3     WELDINGH K N/AU
E3           50 --> WELDINGH KARIN/AU
E4            3     WELDINGH KARIN N/AU
E5            2     WELDINK ERIC/AU
E6            1     WELDKAMP J F/AU
E7            1     WELDL C H/AU
E8           30     WELDLE HELMUT/AU
E9            1     WELDLER HANS/AU
E10           1     WELDLICH C/AU
E11           1     WELDLICH O/AU
E12           1     WELDLICH U/AU

=> s e1-e4 and mycobact?
L13         108 ("WELDINGH K"/AU OR "WELDINGH K N"/AU OR "WELDINGH KARIN"/AU OR
                "WELDINGH KARIN N"/AU) AND MYCOBACT?

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PROCESSING COMPLETED FOR L13
L14          29 DUP REM L13 (79 DUPLICATES REMOVED)

=> d bib ab 1-
YOU HAVE REQUESTED DATA FROM 29 ANSWERS - CONTINUE? Y/(N):y


L14  ANSWER 1 OF 29  EMBASE  COPYRIGHT (c) 2006 Elsevier B.V. All rights
     reserved on STN                                    DUPLICATE 1
AN   2006126612  EMBASE
TI   Use of enzyme-linked immunospot assay with Mycobacterium
     tuberculosis-specific peptides for diagnosis of recent infection with M.
     tuberculosis after accidental laboratory exposure.
AU   Leyten E.M.S.; Mulder B.; Prins C.; Weldingh K.; Andersen P.;
     Ottenhoff T.H.M.; Van Dissel J.T.; Arend S.M.
CS   E.M.S. Leyten, Dept. of Infectious Diseases, Leiden University Medical
     Center, P.O. Box 9600, 2300 RC Leiden, Netherlands. e.m.s.leyten@LUMC.nl
SO   Journal of Clinical Microbiology, (2006) Vol. 44, No. 3, pp. 1197-1201. .
     Refs: 31
     ISSN: 0095-1137  CODEN: JCMIDW
CY   United States
DT   Journal; Article
FS   004     Microbiology
     017     Public Health, Social Medicine and Epidemiology
     035     Occupational Health and Industrial Medicine
LA   English
SL   English
ED   Entered STN: 31 Mar 2006
     Last Updated on STN: 31 Mar 2006
AB   This report of an accidental exposure to Mycobacterium
     tuberculosis in a microbiological laboratory illustrates the value of
     gamma interferon enzyme-linked immunospot assay using peptides of ESAT-6,
     CFP-10, TB37.6, and TB7.7 for the diagnosis of latent infection.  In
     particular, positive responses to peptides 2 to 6 of TB37.6 were observed
     exclusively in recently infected persons.  Copyright .COPYRGT. 2006,
     American Society for Microbiology.  All Rights Reserved.

L14  ANSWER 2 OF 29  CABA COPYRIGHT 2006 CABI on STN    DUPLICATE 2
AN   2006:68095  CABA
DN   20063053675
TI   Prospects for a novel vaccine against tuberculosis
AU   Dietrich, J.; Weldingh, K.; Andersen, P.; More, S. J. [EDITOR];
     Collins, J. D. [EDITOR]; Gormley, E. [EDITOR]; Good, M. [EDITOR]; Skuce,
     R. A. [EDITOR]; Pollock, J. M. [EDITOR]
CS   Department of Infectious Disease Immunology, Statens Serum Institute,
     Artillerivej 5, 2300 Copenhagen S, Denmark. jdi@ssi.dk
SO   Veterinary Microbiology, (2006) Vol. 112, No. 2/4, pp. 163-169. many ref.
     Publisher: Elsevier. Amsterdam
     Price: Journal article; Conference paper .
     Meeting Info.: Proceedings of the 4th International Conference on
     Mycobacterium bovis, Dublin, Ireland, 22-26 August 2005.
     ISSN: 0378-1135
```

CY Netherlands Antilles
DT Journal
LA English
ED Entered STN: 5 Apr 2006
Last Updated on STN: 5 Apr 2006
AB The development of a new and improved vaccine against tuberculosis has in the last 10 years been accelerated tremendously from the completed **Mycobacterium** tuberculosis genome and the progress in molecular biology. This has resulted in the identification of a large number of antigens with potential in tuberculosis vaccines. The next phase of this work has now started - putting the most relevant molecules back together as fusion molecules and cocktails. This requires carefully monitoring of aspects as immunodominance, recognition in different populations as well as the influence of different adjuvants and delivery systems. The most advanced of these vaccines such as the fusion between ESAT6 and Ag85B have been evaluated in a range of animal models including non-human primates and are now entering into clinical trials. For these vaccines to be successfully implemented in future vaccination programmes it is necessary to understand the immunological background for the failure of BCG and optimize the vaccines for their ability to boost the immuneresponse primed by BCG.

L14 ANSWER 3 OF 29 EMBASE COPYRIGHT (c) 2006 Elsevier B.V. All rights reserved on STN DUPLICATE 3
AN 2005377026 EMBASE
TI [A possible successor to the Mantoux test after 97 years].
EN MULIG AFLOSER TIL MANTOUXTEST EFTER 97 AR.
AU Ravn P.; Brock I.; Andersen P.; **Weldingh K.**
SO Ugeskrift for Laeger, (8 Aug 2005) Vol. 167, No. 32, pp. 2905-2906. .
Refs: 5
ISSN: 0041-5782 CODEN: UGLAAD
CY Denmark
DT Journal; (Short Survey)
FS 004 Microbiology
015 Chest Diseases, Thoracic Surgery and Tuberculosis
026 Immunology, Serology and Transplantation
LA Danish
ED Entered STN: 15 Sep 2005
Last Updated on STN: 15 Sep 2005

L14 ANSWER 4 OF 29 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 4
AN 2005:1168451 CAPLUS
TI Replacing the tuberculin skin test with a specific blood test
AU **Weldingh, Karin**; Andersen, Peter
CS Department of Infectious Disease Immunology, Statens Serum Institute, Copenhagen, 2300, Den.
SO Kekkaku (2005), 80(8), 581-585
CODEN: KEKKAG; ISSN: 0022-9776
PB Nippon Kekkakubyo Gakkai
DT Journal
LA English
AB For almost 100 years has the tuberculin skin test (TST) been used for the support the diagnosis of active and latent TB infection. The TST test has, however, a number of limitations most notable low specificity in BCG vaccinated individuals due to cross-reactive components in PPD and the M. bovis BCG vaccine strain and an intensive search for new and more specific diagnostic antigens has therefore be ongoing. In this review we describe the discovery process leading to the identification of the M. tuberculosis specific antigens ESAT6 and CFPI0; two low mol. weight proteins which are highly sensitive and specific for detection of a M. tuberculosis infection.
RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 5 OF 29 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 5
AN 2005:464789 BIOSIS
DN PREV200510248324
TI Prospective evaluation of a whole-blood test using **Mycobacterium**

tuberculosis-specific antigens ESAT-6 and CFP-10 for diagnosis of active tuberculosis.

AU Ravn, Pernille [Reprint Author]; Munk, Martin E.; Andersen, Ase B.; Lundgren, Bettina; Lundgren, Jens D.; Nielsen, Lars N.; Kok-Jensen, Axel; Andersen, Peter; **Weldingh, Karin**

CS Hvidovre Hosp, Dept Infect Dis, Kettegards Alle 30, DK-2650 Hvidovre, Denmark
pravn@dadlnet.dk

SO Clinical and Diagnostic Laboratory Immunology, (APR 2005) Vol. 12, No. 4, pp. 491-496.
ISSN: 1071-412X.

DT Article

LA English

ED Entered STN: 9 Nov 2005
Last Updated on STN: 9 Nov 2005

AB A new immunodiagnostic test based on the **Mycobacterium** tuberculosis-specific antigens CFP-10/ESAT-6(QFT-RD1) has been launched as an aid in the diagnosis of latent tuberculosis (TB) infection (LTBI). The aim of this study was to evaluate this test for the diagnosis of active TB. Eighty-two patients with suspicion of TB and 39 healthy BCG-vaccinated persons were enrolled. Forty-eight had active TB, 25 did not, and 9 were excluded. Sensitivity and specificity of the test for active TB were evaluated in a prospective blinded manner in patients suspected of TB. The sensitivity of the QFT-RDI was 85 % (40/48; confidence interval [CI], 75 to 96), and it was higher than the sensitivity of microscopy, 42 % (20/48; CI, 27 to 56; P = 0.001), and culture, 59 % (27/46; CI, 44 to 73; P = 0.009). Of patients with extrapulmonary TB, 92 % (12/13) were QFT-RDI positive, whereas only 31 % (4/13) were positive by microscopy and 42 % (5/12) by culture (P < 0.05), and 87 % (13115) of those who were negative by both microscopy and culture were QFT-RDI positive. By combining microscopy and culture with the QFT-RDI test, sensitivity increased to 96 % (CI, 90 to 102). Ten of 25 (40 %) non-TB patients were QFT-RD1 positive, resulting in a specificity of 60 %. However, 80 % (8/10) of these had risk-factors for TB, indicating latent infection in this group. In healthy controls, only 3 % (1/39) were QFT-RD1 positive. In conclusion, the QFT-RD1 test is sensitive for diagnosis of TB, especially in patients with negative microscopy and culture. The accuracy of the QFT-RDI test will vary with the prevalence of LTBI. We suggest that the QFT-RD1 test could be a very useful supplementary tool for the diagnosis of TB.

L14 ANSWER 6 OF 29 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

AN 2006:6103 BIOSIS

DN PREV200600003616

TI Inhibition of anti-tuberculosis effector T lymphocytes with tumor necrosis factor antagonist treatment.

AU Mariette, Xavier [Reprint Author]; Hamdi, Haifa; **Weldingh, Karin** ; Puechal, Xavier; Breban, Maxime; Berenbaum, Francis; Flipo, Rene Marc; Meyer, Olivier; Falgarone, Geraldine; Liote, Frederic; Claudepierre, Pascal; Lemann, Marc; Humbert, Marc; Salmon, Dominique; Emilie, Dominique; Club Rhumatismes Inflammation [Reprint Author]

CS Bicetre Hosp, Le Kremlin Bicetre, France

SO Arthritis & Rheumatism, (SEP 2005) Vol. 52, No. 9, Suppl. S, pp. S338.
Meeting Info.: 69th Annual Scientific Meeting of the American-College-of-Rheumatology/40th Annual Scientific Meeting of the Association-of-Rheumatology-Health-Professionals. San Diego, CA, USA. November 12 -17, 2005. Amer Coll Rheumatol; Assoc Rheumatol Hlth Profess.
CODEN: ARHEAW. ISSN: 0004-3591.

DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)

LA English

ED Entered STN: 14 Dec 2005
Last Updated on STN: 14 Dec 2005

L14 ANSWER 7 OF 29 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 6

AN 2005:119461 CAPLUS

DN 142:334537

TI Assessing the serodiagnostic potential of 35 **Mycobacterium** tuberculosis proteins and identification of four novel serological

antigens
AU **Weldingh, Karin**; Rosenkrands, Ida; Okkels, Limei Meng; Doherty, T. Mark; Andersen, Peter
CS Department of Infectious Disease Immunology, Statens Serum Institut, Copenhagen, Den.
SO Journal of Clinical Microbiology (2005), 43(1), 57-65
CODEN: JCMIDW; ISSN: 0095-1137
PB American Society for Microbiology
DT Journal
LA English
AB Improved diagnostic reagents are needed for the detection of **Mycobacterium** tuberculosis infections, and the development of a serodiagnostic test would complement presently available diagnostic methods. The aim of the present study was to identify novel serol. targets for use for the future serodiagnosis of tuberculosis (TB). The authors cloned and expressed 35 M. tuberculosis proteins as recombinant proteins in Escherichia coli and analyzed their serodiagnostic potentials. By a two-step selection process, four superior seroantigens, TB9.7, TB15.3, TB16.3, and TB51, were identified, none of which has been described before. The four novel antigens were tested with panels of sera from smear-pos. and smear-neg. TB patients from areas both where TB is endemic and where TB is not endemic, with recognition frequencies ranging from 31 to 93% and with a specificity of at least 97%. The single most potent antigen was TB16.3, which had a sensitivity of 48 to 55% with samples from Danish resident TB patients and a sensitivity of 88 to 98% with samples from African TB patients. Importantly, the TB16.3 and the TB9.7 antigens were recognized by more than 85% of the samples from TB patients coinfected with human immunodeficiency virus, a patient group for which it is in general difficult to detect M. tuberculosis-specific antibodies.
RE.CNT 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 8 OF 29 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 7
AN 2004:490265 CAPLUS
DN 141:52841
TI Cloning and characterization of genes encoding culture filtrate antigens involved in protective immunity to M. tuberculosis, and use thereof as vaccines and in diagnosis
IN Andersen, Peter; Skiot, Rikke; Oettinger, Thomas; Rasmussen, Peter Birk; Rosenkrands, Ida; **Weldingh, Karin**; Florio, Walter
PA Den.
SO U.S. Pat. Appl. Publ., 109 pp., Cont.-in-part of U.S. 6,641,814.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 10

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004115211	A1	20040617	US 2003-620246	20030715
	US 6641814	B1	20031104	US 1998-50739	19980330
	EP 1449922	A2	20040825	EP 2004-76605	19980401
	EP 1449922	A3	20041117		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
PRAI	DK 1997-376	A	19970402		
	US 1997-44624P	P	19970418		
	DK 1997-1277	A	19971110		
	US 1998-70488P	P	19980105		
	US 1998-50739	A2	19980330		
	DK 1998-1281	A	19981008		
	EP 1998-913536	A3	19980401		

AB The present invention is based on the identification and characterization of a number of M. tuberculosis derived antigens, isolated from culture filtrates of T cells from memory immune mice by T cell epitope mapping. The invention is directed to the polypeptides and immunol. active fragments thereof, the genes encoding them, immunol. compns. such as vaccines and skin test reagents containing the polypeptides. Another part of the invention is based on the surprising discovery that fusions between

ESAT-6 and MPT59 are superior immunogens compared to each of the unfused proteins, resp. These antigens are suitable for use in vaccines and in diagnosis of infections.

L14 ANSWER 9 OF 29 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 8
AN 2004:80234 CAPLUS
DN 140:144687
TI Molecular differences between species of the **Mycobacterium** tuberculosis complex by genetic deletion markers and genetic marker-encoded antigens
IN Behr, Marcel; Small, Peter; Wilson, Michael A.; Schoolnik, Gary; Aagaard, Claus; Rosenkrands, Ida; **Weldingh, Karin**; Andersen, Peter
PA Can.
SO U.S. Pat. Appl. Publ., 83 pp., Cont.-in-part of U.S. Ser. No. 894,844.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004018574	A1	20040129	US 2003-388902	20030314
	US 6291190	B1	20010918	US 1999-318191	19990525
	US 2002176873	A1	20021128	US 2001-894844	20010627
	US 6686166	B2	20040203		
	US 2004063923	A1	20040401	US 2003-647089	20030821
	WO 2004083448	A2	20040930	WO 2004-US7668	20040311
	WO 2004083448	A3	20060216		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 2006002953	A1	20060105	US 2005-143401	20050601
PRAI	US 1998-97936P	P	19980825		
	US 1999-318191	A1	19990525		
	US 2001-894844	A2	20010627		
	US 2003-388902	A	20030314		
	US 2003-647089	B1	20030821		

AB Specific genetic deletions are identified that serve as markers to distinguish between avirulent and virulent **mycobacteria** strains, including M. bovis, M. bovis BCG strains, M. tuberculosis (M. tb.) isolates, and bacteriophages that infect **mycobacteria**. These deletions are used as genetic markers to distinguish between the different **mycobacteria**. In one embodiment of the invention, a plurality of antigens encoded by the provided genetic markers is used in the diagnosis of M. tuberculosis infection. Alternatively, the deleted genes are identified in the M. tb. genome sequence, and are then reintroduced by recombinant methods into BCG or other vaccine strains, in order to improve the efficacy of vaccination.

L14 ANSWER 10 OF 29 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:996402 CAPLUS
DN 141:423306
TI Compositions comprising multiple T cell epitopes of **mycobacterial** antigens for immunodiagnosis and immunotherapy of tuberculosis
IN Andersen, Peter; Brock, Inger; **Weldingh, Karin**
PA Statens Serum Institut, Den.
SO PCT Int. Appl., 65 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI	WO 2004099771	A1	20041118	WO 2004-DK314	20040506

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI DK 2003-699 A 20030508

AB The current used method for immunol. diagnosis of tuberculosis infection, the tuberculin skin test, is problematic for a number of reasons; it has low specificity in BCG vaccinated individuals, a high interobserver variance and requires skill to be read and interpreted. Furthermore it requires an extra visit to the clinic to have the test read. Both people vaccinated with BCG and those exposed to non-tuberculosis **mycobacteria** give a pos. skin test result similar to that seen in a TB infected individual. This also applies for purified protein derivative (PPD) when used in a blood cell based test. The present invention disclosed the development of an immunol. TB diagnostic tool based on a combination of T cell epitopes from proteins encoded by regions of the M. tuberculosis genome, that are not present in the BCG vaccine strain or in the most common non-tuberculosis **mycobacteria**. Four recently characterized proteins (i.e. Rv2654, Rv2653, Rv3873 and Rv3878) with this diagnostic potential were selected. Peptides from these proteins were tested one by one with peripheral blood mononuclear cells from microscopy or culture confirmed TB patients as well as from healthy BCG vaccinated controls. Some combinations of peptides showed a sensitivity level comparable to the level seen with these peptides combined with ESAT 6 and CFP 10 gave a sensitivity of 93% representing a raise in sensitivity of about 26-33% compared to using ESAT6 or CFP10 alone. The results from a panel of TB patients, using a collection of the new specific epitopes clearly demonstrates, the addition of other specific epitopes to the already known specific antigens, increases the sensitivity of a diagnostic assay based on cell mediated immune response.

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 11 OF 29 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 9

AN 2004:309660 BIOSIS

DN PREV200400309678

TI Healthy individuals that control a latent infection with **Mycobacterium** tuberculosis express high evels of Th1 cytokines and the IL-4 antagonist IL-4delta2.

AU Demissie, Abebech; Abebe, Markos; Aseffa, Abraham; Rook, Graham; Fletcher, Helen; Zumla, Alimuddin; **Weldingh, Karin**; Brock, Inger; Andersen, Peter; Doherty, T. Mark [Reprint Author]; VACSEL Study Group

CS Dept Infect Dis Immunol, Statens Serum Inst, Artillerivej 5, DK-2300, Copenhagen, S, Denmark
TMD@ssi.dk

SO Journal of Immunology, (June 1 2004) Vol. 172, No. 11, pp. 6938-6943. print.
ISSN: 0022-1767 (ISSN print).

DT Article

LA English

ED Entered STN: 7 Jul 2004
Last Updated on STN: 7 Jul 2004

AB The majority of healthy individuals exposed to **Mycobacterium** tuberculosis will not develop disease and identifying what constitutes "protective immunity" is one of the holy grails of M. tuberculosis immunology. It is known that IFN-gamma is essential for protection, but it is also apparent that IFN-gamma levels alone do not explain the immunity/susceptibility dichotomy. The controversy regarding correlates of immunity persists because identifying infected but healthy individuals

(those who are immune) has been problematic. We have therefore used recognition of the M. tuberculosis virulence factor early secretory antigenic target 6 to identify healthy, but infected individuals from tuberculosis (TB)-endemic and nonendemic regions (Ethiopia and Denmark) and have compared signals for cytokines expressed directly ex vivo with the pattern found in TB patients. We find that TB patients are characterized by decreased levels of Th1 cytokines and increased levels of IL-10 compared with the healthy infected and noninfected community controls. Interestingly, the healthy infected subjects exhibited a selective increase of message for the IL-4 antagonist, IL-4delta2, compared with both TB patients or noninfected individuals. These data suggest that long-term control of M. tuberculosis infection is associated not just with elevated Th1 responses but also with inhibition of the Th2 response.

L14 ANSWER 12 OF 29 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 10
AN 2004:572566 CAPLUS
DN 141:294300
TI Specific T-cell epitopes for immunoassay-based diagnosis of **Mycobacterium** tuberculosis infection
AU Brock, Inger; **Weldingh, Karin**; Leyten, Eliane M. S.; Arend, Sandra M.; Ravn, Pernille; Andersen, Peter
CS Department of Infectious Disease Immunology, Statens Serum Institute, Copenhagen, Den.
SO Journal of Clinical Microbiology (2004), 42(6), 2379-2387
CODEN: JCMIDW; ISSN: 0095-1137
PB American Society for Microbiology
DT Journal
LA English
AB The currently used method for immunol. detection of tuberculosis infection, the tuberculin skin test, has low specificity. Antigens specific for **Mycobacterium** tuberculosis to replace purified protein derivative are therefore urgently needed. We have performed a rigorous assessment of the diagnostic potential of four recently identified antigens (Rv2653, Rv2654, Rv3873, and Rv3878) from genomic regions that are lacking from the **Mycobacterium** bovis bacillus Calmette-Guerin (BCG) vaccine strains as well as from the most common nontuberculous **mycobacteria**. The fine specificity of potential epitopes in these mols. was evaluated by sensitive testing of the T-cell responses of peripheral blood mononuclear cells derived from M. bovis BCG-vaccinated healthy individuals to synthesized overlapping peptides. Three of the four mols. contained regions with significant specificity problems (Rv2653, Rv3873, and Rv3878). We selected and combined the specific peptide stretches from the four proteins not recognized by M. bovis BCG-vaccinated individuals. These peptide stretches were tested with peripheral blood mononuclear cells obtained from patients with microscopy-or culture-confirmed tuberculosis and from healthy M. bovis BCG-vaccinated controls. The combination of the most promising stretches from this anal. showed a sensitivity level (57%) comparable to the level found with the two well-known M. tuberculosis-specific proteins ESAT-6 and CFP-10 (75 and 66%, resp.). The combination of ESAT-6, CFP-10, and the novel specific peptide stretches gave an overall sensitivity of 84% at a specificity of 97%. In a validation experiment with new exptl. groups, the sensitivities obtained were 57% for the combination of peptides and 90% for the combination of the peptides, ESAT-6, and CFP-10. This combination gave a specificity of 95%.
RE.CNT 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 13 OF 29 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 11
AN 2004:211482 BIOSIS
DN PREV200400213609
TI Mapping immune reactivity toward Rv2653 and Rv2654: Two novel low-molecular-mass antigens found specifically in the **Mycobacterium** tuberculosis complex.
AU Aagaard, Claus [Reprint Author]; Brock, Inger; Olsen, Anja; Ottenhoff, Tom H. M.; **Weldingh, Karin**; Andersen, Peter
CS Dept. of Infectious Disease Immunology, Statens Serum Institute,

Artillerivej 5, DK-2300, Copenhagen, Denmark
caa@ssi.dk
SO Journal of Infectious Diseases, (1 March 2004) Vol. 189, No. 5, pp. 812-819. print.
CODEN: JIDIAQ. ISSN: 0022-1899.
DT Article
LA English
ED Entered STN: 14 Apr 2004
Last Updated on STN: 14 Apr 2004
AB New tools are urgently needed for the detection of latent tuberculosis (TB). We evaluated the diagnostic potential of 2 novel **Mycobacterium** tuberculosis complex-specific candidate antigens (Rv2653 and Rv2654) and investigated T cell recognition during natural infection in humans and experimental infection in guinea pigs. Peripheral blood mononuclear cells stimulated with peptide pools covering the full length of Rv2654 induced interferon-gamma release in 10 of 19 patients with TB. Neither Rv2654 single peptides nor Rv2654 pools were recognized by bacille Calmette-Guerin-vaccinated donors. However, peptides from Rv2653 were recognized by both patients group. The cross-reactive epitope(s) in Rv2653 were located in a 36-amino acid stretch in the center of the molecule. Rv2654 also induced M. tuberculosis-specific skin-test responses in 3 of 4 aerosol-infected guinea pigs. Rv2654 is a strongly recognized T cell antigen that is highly specific for TB and has potential as a novel cell-mediated immunity-based TB diagnostic agent.

L14 ANSWER 14 OF 29 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 12
AN 2004:345624 BIOSIS
DN PREV200400347773
TI Reactivation of tuberculosis during immunosuppressive treatment in a patient with a positive QuantiFERON(R)-RD1 Test.
AU Ravn, Pernille [Reprint Author]; Munk, Martin E.; Andersen, Ase Bengaard; Lundgren, Bettina; Nielsen, Lars N.; Lillebaek, Troels; Soerensen, Inge J.; Andersen, Peter; **Weldingh, Karin**
CS Hvidovre HospDept Infect Dis, Univ Copenhagen, Kettegards Alle 30, DK-2650, Hvidovre, Denmark
pravn@dadlnet.dk
SO Scandinavian Journal of Infectious Diseases, (July 2004) Vol. 36, No. 6-7, pp. 499-501, 497. print.
CODEN: SJIDB7. ISSN: 0036-5548.
DT Article
LA English
ED Entered STN: 18 Aug 2004
Last Updated on STN: 18 Aug 2004
AB A patient with polymyositis developed tuberculosis during immunosuppressive treatment. Tuberculin Skin Test and chest X-ray failed to demonstrate latent tuberculosis, whereas a blood sample that was tested with a modified QuantiFERON(R)-TB-assay, using the recombinant ESAT-6 and CFP-10, was positive indicating that this patient was latently infected before immunosuppressive therapy. This case indicates the risk of progressing from latent to active tuberculosis given that the subject is RD1 responsive, and we believe that preventive anti-tuberculous treatment could have prevented this case of tuberculosis. We suggest that RD1 based tests are evaluated further in immunocompromised patients.

L14 ANSWER 15 OF 29 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 13
AN 2004:340175 BIOSIS
DN PREV200400343460
TI Comparison of tuberculin skin test and new specific blood test in tuberculosis contacts.
AU Brock, Iinger; **Weldingh, Karin**; Lillebaek, Troels; Follmann, Frank; Andersen, Peter [Reprint Author]
CS Dept Infect Dis Immunol, Statens Serum Inst, Artillerivej 5, DK-2300, Copenhagen, Denmark
pa@ssi.dk
SO American Journal of Respiratory and Critical Care Medicine, (July 1 2004) Vol. 170, No. 1, pp. 65-69. print.
ISSN: 1073-449X (ISSN print).

DT Article
LA English
ED Entered STN: 11 Aug 2004
Last Updated on STN: 11 Aug 2004
AB The tuberculin skin test used to detect latent **Mycobacterium** tuberculosis infection has many drawbacks, and a new diagnostic test for latent tuberculosis (QuantiFERON-TB (QTF-TB)) has recently been introduced. This test measures the production of IFN-gamma in whole blood upon stimulation with purified protein derivative (PPD). The QTF-TB test addresses the operational problems with the tuberculin skin test, but, as the test is based on PPD, it still has a low specificity in populations vaccinated with the Bacile Calmette-Guerin (BCG) vaccine. We have modified the test to include the antigens ESAT-6 and CFP-10, which are not present in BCG vaccine strains or the vast majority of nontuberculous **mycobacteria**. This test was used to detect infection in contacts in a tuberculosis outbreak at a Danish high school. The majority of the contacts were BCG-unvaccinated, which allowed a direct comparison of the skin test and the novel blood test in individuals whose skin test was not confounded by vaccination. An excellent agreement between the two tests was found (94%, kappa value 0.866), and in contrast to the blood test based on PPD, the novel blood test was not influenced by the vaccination status of the subjects tested.

L14 ANSWER 16 OF 29 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 14
AN 2004:5335 BIOSIS
DN PREV200400007544
TI Nucleic acids fragments and polypeptide fragments derived from M. tuberculosis.
AU Andersen, Peter [Inventor, Reprint Author]; Nielsen, Rikke [Inventor]; Oettinger, Thomas [Inventor]; Rasmussen, Peter Birk [Inventor]; Rosenkrands, Ida [Inventor]; **Weldingh, Karin** [Inventor]; Florio, Walter [Inventor]
CS Bronshoj, Denmark
ASSIGNEE: Statens Serum Institut, Copenhagen, Denmark
PI US 6641814 20031104
SO Official Gazette of the United States Patent and Trademark Office Patents, (Nov 4 2003) Vol. 1276, No. 1. http://www.uspto.gov/web/menu/patdata.html. e-file.
ISSN: 0098-1133 (ISSN print).
DT Patent
LA English
ED Entered STN: 17 Dec 2003
Last Updated on STN: 17 Dec 2003
AB The present invention is based on the identification and characterization of a number of M. tuberculosis derived novel proteins and protein fragments (SEQ ID NOs: 2, 4, 6, 8, 10, 12, 14, 16, 17-23, 42, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72-86, 88, 90, 92, 94, 141, 143, 145, 147, 149, 151, 153, and 168-171). The invention is directed to the polypeptides and immunologically active fragments thereof, the genes encoding them, immunological compositions such as vaccines and skin test reagents containing the polypeptides. Another part of the invention is based on the surprising discovery that fusions between ESAT-6 and MPT59 are superior immunogens compared to each of the unfused proteins, respectively.

L14 ANSWER 17 OF 29 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 15
AN 2003:696302 CAPLUS
DN 139:229237
TI Protein and DNA sequences of antigens from **Mycobacterium** and uses in tuberculosis diagnosis and treatment
IN Andersen, Peter; **Weldingh, Karin**; Hansen, Christina Veggerby; Florio, Walter; Okkels, Li Mei Meng; Skjot, Rikke Louise Vinther; Rasmussen, Peter Birk
PA Statens Serum Institut, Den.
SO U.S. Pat. Appl. Publ., 53 pp., Cont.-in-part of U.S. Ser. No. 60,428.
CODEN: USXXCO
DT Patent
LA English

FAN.CNT 10

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003165525	A1	20030904	US 2002-138473	20020502
	US 6982085	B2	20060103		
	US 6641814	B1	20031104	US 1998-50739	19980330
	EP 1449922	A2	20040825	EP 2004-76605	19980401
	EP 1449922	A3	20041117		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
	US 2002094336	A1	20020718	US 2001-791171	20010220
PRAI	DK 1997-376	A	19970402		
	US 1997-44624P	P	19970418		
	DK 1997-1277	A	19971110		
	US 1998-70488P	P	19980105		
	US 1998-50739	A2	19980330		
	DK 1998-1281	A	19981008		
	US 2001-791171	B2	20010220		
	US 2002-60428	A2	20020129		
	EP 1998-913536	A3	19980401		

AB The present invention is based on the identification and characterization of 9 antigens, including Rv0652/CFP16, Rv2462c/TB51, Rv1984c/CFP21, Rv2185c/TB16, Rv1636/TB15A, Rv3451/CFP23, Rv3872/RD1-ORF3, Rv3354/CFP8A and Rv2623/TB32, from **Mycobacterium** tuberculosis. The invention is directed to the polypeptides and immunol. active fragments thereof, the genes encoding them, immunol. compns. such as diagnostic reagents containing the polypeptides. The invention related to diagnosing tuberculosis caused by virulent **mycobacteria**, e.g. by **Mycobacterium** tuberculosis, **Mycobacterium** africanum or **Mycobacterium** bovis, in an animal, including a human being. The invention related to treating tuberculosis using antigens isolated from **Mycobacterium** tuberculosis.

L14 ANSWER 18 OF 29 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 16

AN 2004:76163 BIOSIS

DN PREV200400078267

TI Human T-cell responses to the RD1-encoded protein TB27.4 (Rv3878) from **Mycobacterium** tuberculosis.

AU Agger, Else Marie [Reprint Author]; Brock, Inger; Okkels, Limei Meng; Arend, Sandra M.; Aagaard, Claus S.; **Weldingh, Karin N.**; Andersen, Peter

CS Department of Infectious Disease Immunology, Statens Serum Institut, Artillerivej 5, DK-2300, Copenhagen, S, Denmark
eag@ssi.dk

SO Immunology, (December 2003) Vol. 110, No. 4, pp. 507-512. print.
CODEN: IMMUAM. ISSN: 0019-2805.

DT Article

LA English

ED Entered STN: 4 Feb 2004
Last Updated on STN: 4 Feb 2004

AB In recent years, there has been considerable focus on the discovery and characterization of proteins derived from **Mycobacterium** tuberculosis leading to the identification of a number of candidate antigens for use in vaccine development or for diagnostic purposes. Previous experiments have demonstrated an important immunological role for proteins encoded by the RD1 region, which is absent from all strains of bacillus Calmette-Guerin (BCG) but present in the genomes of virulent M. bovis and M. tuberculosis. Herein, we have studied human T-cell responses to the antigen encoded by the putative open reading frame (rv3878) of the RD1 region. Immunoblot analysis revealed that rv3878 was expressed and the native protein was designated TB27.4. Immunological evaluations demonstrate that TB27.4 elicits a prominent immune response in human tuberculosis patients with a dominant region in the C-terminal part of the molecule. In contrast, very limited responses were seen in M. bovis BCG-vaccinated donors. This study therefore emphasizes the diagnostic potential of proteins encoded by the RD1 region.

L14 ANSWER 19 OF 29 USPATFULL on STN

AN 2002:178550 USPATFULL
TI Nucleic acid fragments and polypeptide fragments derived from M. tuberculosis
IN Andersen, Peter, Bronshoj, DENMARK
Nielsen, Rikke, Frederiksberg C, DENMARK
Oettinger, Thomas, Hellerup, DENMARK
Rasmussen, Peter Birk, Kobenhaven O, DENMARK
Rosenkrands, Ida, Kobenhaven O, DENMARK
Weldingh, Karin, Kobenhaven N, DENMARK
Florio, Walter, Frederiksberg C, DENMARK
PA STATENS SERUM INSTITUT (non-U.S. corporation)
PI US 2002094336 A1 20020718
AI US 2001-791171 A1 20010220 (9)
RLI Division of Ser. No. US 1998-50739, filed on 30 Mar 1998, PENDING
PRAI DK 1997-376 19970402
DK 1997-1277 19971110
US 1997-44624P 19970418 (60)
US 1998-70488P 19980105 (60)
DT Utility
FS APPLICATION
LREP FROMMER LAWRENCE & HAUG LLP, 745 FIFTH AVENUE, NEW YORK, NY, 10151
CLMN Number of Claims: 53
ECL Exemplary Claim: 1
DRWN 6 Drawing Page(s)
LN.CNT 6134
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is based on the identification and characterization of a number of M. tuberculosis derived novel proteins and protein fragments (SEQ ID NOs: 2, 4, 6, 8, 10, 12, 14, 16, 17-23, 42, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72-86, 88, 90, 92, 94, 141, 143, 145, 147, 149, 151, 153, and 168-171). The invention is directed to the polypeptides and immunologically active fragments thereof, the genes encoding them, immunological compositions such as vaccines and skin test reagents containing the polypeptides. Another part of the invention is based on the surprising discovery that fusions between ESAT-6 and MPT59 are superior immunogens compared to each of the unfused proteins, respectively.

L14 ANSWER 20 OF 29 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 17
AN 2003:34905 BIOSIS
DN PREV200300034905
TI Specific acquired resistance in mice immunized with killed **mycobacteria**.
AU Agger, E. M.; **Weldingh, K.**; Olsen, A. W.; Rosenkrands, I.; Andersen, P. [Reprint Author]
CS Department of TB Immunology, Statens Serum Institut, Artillerivej 5, DK-2300, Copenhagen, Denmark
pa@ssi.dk
SO Scandinavian Journal of Immunology, (November 2002) Vol. 56, No. 5, pp. 443-447. print.
ISSN: 0300-9475 (ISSN print).
DT Article
LA English
ED Entered STN: 8 Jan 2003
Last Updated on STN: 8 Jan 2003
AB Past attempts to raise resistance against **Mycobacterium** tuberculosis using various preparations of killed **mycobacteria** have questioned the specificity of the generated immune response. In the present study, we have focused on the protective efficacy of experimental vaccines based on killed **mycobacteria**. We demonstrate that killed **mycobacteria** can confer high levels of protection, which can be adoptively transferred to recipient T-cell-deficient mice. Moreover, protective antigens can be found in the cell wall, membrane and cytosol of the **mycobacterial** cell, and hence emphasize the importance of searching for protective antigens in various compartments of the **mycobacterial** cell.

L14 ANSWER 21 OF 29 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2001:780953 CAPLUS
DN 135:343273
TI Cloning and immunogenicity of **Mycobacterium** tuberculosis proteins
IN Agger, Else Marie; Andersen, Peter; Okkels, Li Mei Meng; **Weldingh, Karin**
PA Statens Serum Institut, Den.
SO PCT Int. Appl., 111 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001079274	A2	20011025	WO 2001-DK276	20010419
	WO 2001079274	A3	20020711		
	WO 2001079274	B1	20020808		
	WO 2001079274	C1	20040429		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2405247	AA	20011025	CA 2001-2405247	20010419
	EP 1278769	A2	20030129	EP 2001-923542	20010419
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
PRAI	DK 2000-666	A	20000419		
	DK 2001-283	A	20010221		
	WO 2001-DK276	W	20010419		

AB The authors disclose the identification and characterization of a number of novel **Mycobacterium** tuberculosis derived proteins and protein fragments. The proteins and protein fragments were examined for their ability to elicit interferon-γ production and/or a T-cell proliferative response in guinea pigs and humans with tuberculosis.

L14 ANSWER 22 OF 29 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2000:260319 CAPLUS
DN 132:292711
TI Tb vaccine and diagnostic based on antigens from the **Mycobacterium** tuberculosis cell
IN Andersen, Peter; **Weldingh, Karin**; Hansen, Christina Veggerby; Florio, Walter; Okkels, Li Mei Meng; Skjot, Rikke Louise Vinther; Rosenkrands, Ida
PA Statens Serum Institut, Den.
SO PCT Int. Appl., 126 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 10

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000021983	A2	20000420	WO 1999-DK538	19991008
	WO 2000021983	A3	20001123		
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2346218	AA	20000420	CA 1999-2346218	19991008
	AU 9960784	A1	20000501	AU 1999-60784	19991008

AU 766093 B2 20031009
EP 1117683 A2 20010725 EP 1999-947257 19991008
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, IE, SI, LT, LV, FI, RO
PRAI DK 1998-1281 A 19981008
US 1999-116673P P 19990121
WO 1999-DK538 W 19991008
AB The present invention relates to substantially pure polypeptides, which has a sequence identity of at least 80 % to an amino acid sequence disclosed, or which is a subsequence of at least 6 amino acids thereof, preferably a B- or T-cell epitope of the polypeptides disclosed. The polypeptide or the subsequence thereof has at least one of nine properties. The use of the disclosed polypeptides in medicine is disclosed, preferably as vaccine or diagnostic agents relating to virulent **Mycobacterium**. The invention further relates to the nucleotide sequences disclosed and the nucleotide sequences encoding the disclosed polypeptides. Medical and non-medical use of the nucleotide sequences is disclosed.

L14 ANSWER 23 OF 29 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 18
AN 2001:37127 BIOSIS
DN PREV200100037127
TI Towards the proteome of **Mycobacterium** tuberculosis.
AU Rosenkrands, Ida [Reprint author]; King, Angus; **Weldingh, Karin**; Moniatte, Marc; Moertz, Ejvind; Andersen, Peter
CS Department of TB Immunology, Statens Serum Institut, 5 Artillerivej, DK-2300, Copenhagen S, Denmark
idr@ssi.dk
SO Electrophoresis, (November, 2000) Vol. 21, No. 17, pp. 3740-3756. print.
CODEN: ELCTDN. ISSN: 0173-0835.
DT Article
LA English
ED Entered STN: 17 Jan 2001
Last Updated on STN: 12 Feb 2002
AB Human tuberculosis is caused by the intracellular pathogen **Mycobacterium** tuberculosis. Sequencing of the genome of M. tuberculosis strain H37Rv has predicted 3924 open reading frames, and enabled identification of proteins from this bacterium by peptide mass fingerprinting. Extracellular proteins from the culture medium and proteins in cellular extracts were examined by two-dimensional gel electrophoresis using immobilized pH gradient technology. By mass spectrometry and immunodetection, 49 culture filtrate proteins and 118 lysate proteins were identified, 83 of which were novel. To date, 288 proteins have been identified in M. tuberculosis proteome studies, and a list is presented which includes all identified proteins (available at http://www.ssi.dk/publichealth/tbimmun). The information obtained from the M. tuberculosis proteome so far is discussed in relation to the information obtained from the complete genome sequence.

L14 ANSWER 24 OF 29 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 19
AN 2000:271567 BIOSIS
DN PREV200000271567
TI Mapping and identification of **Mycobacterium** tuberculosis proteins by two-dimensional gel electrophoresis, microsequencing and immunodetection.
AU Rosenkrands, Ida; **Weldingh, Karin**; Jacobsen, Susanne; Hansen, Christina Veggerby; Florio, Walter; Gianetri, Isabella; Andersen, Peter [Reprint author]
CS Department of TB Immunology, Statens Serum Institute, 5 Artillerivej, DK-2300, Copenhagen S, Denmark
SO Electrophoresis, (March, 2000) Vol. 21, No. 5, pp. 935-948. print.
CODEN: ELCTDN. ISSN: 0173-0835.
DT Article
LA English
ED Entered STN: 30 Jun 2000
Last Updated on STN: 5 Jan 2002
AB **Mycobacterium** tuberculosis is the infectious agent giving rise

to human tuberculosis. The entire genome of M. tuberculosis, comprising approximately 4000 open reading frames, has been sequenced. The huge amount of information released from this project has facilitated proteome analysis of M. tuberculosis. Two-dimensional polyacrylamide gel electrophoresis (2-D PAGE) was applied to fractions derived from M. tuberculosis culture filtrate, cell wall, and cytosol, resulting in the resolution of 376, 413, and 395 spots, respectively, in silver-stained gels. By microsequencing and immunodetection, 38 culture filtrate proteins were identified and mapped, of which 12 were identified for the first time. In the same manner, 23 cell wall proteins and 19 cytosol proteins were identified and mapped, with 9 and 10, respectively, being novel proteins. One of the novel proteins was not predicted in the genome project, and for four of the identified proteins alternative start codons were suggested. Fourteen of the culture filtrate proteins were proposed to possess signal sequences. Seven of these proteins were microsequenced and the N-terminal sequences obtained confirmed the prediction. The data presented here are an important complement to the genetic information, and the established 2-D PAGE maps (also available at: www.ssi.dk/publichealth/tbimmun) provide a basis for comparative studies of protein expression.

L14 ANSWER 25 OF 29 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 20
AN 2000:124885 BIOSIS
DN PREV200000124885
TI High resolution electroelution of polyacrylamide gels for the purification of single proteins from **Mycobacterium** tuberculosis culture filtrate.
AU **Weldingh, K.**; Hansen, A.; Jacobsen, S.; Andersen, P. [Reprint author]
CS Department of TB-Immunology, Statens Serum Institut, Artillerivej 5, DK-2300, Copenhagen S, Denmark
SO Scandinavian Journal of Immunology, (Jan., 2000) Vol. 51, No. 1, pp. 79-86. print.
CODEN: SJIMAX. ISSN: 0300-9475.
DT Article
LA English
ED Entered STN: 5 Apr 2000
Last Updated on STN: 3 Jan 2002
AB Culture filtrate from **Mycobacterium** tuberculosis contains protective molecules which have been used successfully in experimental vaccines against tuberculosis. Despite an increasing number of **mycobacterial** proteins being characterised, a major effort is still needed to get an overview of the many potentially interesting molecules in culture filtrate. In this study we describe a high throughput method for purification and biological evaluation of protein components in complex protein mixtures. The method presents a new application of the recently developed Mini Whole Gel Eluter and employs this apparatus for the high resolution electroelution of selected molecular mass fractions of protein mixtures previously separated in large polyacrylamide gels. Two novel M. tuberculosis culture filtrate proteins (CspA and TB18.6) were purified by this method, their N-terminal sequences were determined and the open reading frame encoding each of the proteins identified. The immunological recognition of the molecules were evaluated in tuberculosis infected mice and guinea pigs. Both proteins induced DTH responses in guinea pigs and IFN-gamma release from spleen lymphocytes isolated from infected mice.

L14 ANSWER 26 OF 29 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 21
AN 2000:34114 BIOSIS
DN PREV200000034114
TI Differential T-cell recognition of native and recombinant **Mycobacterium** tuberculosis GroES.
AU Rosenkrands, Ida; **Weldingh, Karin**; Ravn, Pernille; Brandt, Lise; Hojrup, Peter; Rasmussen, Peter Birk; Coates, Anthony R.; Singh, Mahavir; Mascagni, Paolo; Andersen, Peter [Reprint author]
CS Department of TB Immunology, Statens Serum Institut, 5 Artillerivej, DK-2300, Copenhagen S, Denmark

SO Infection and Immunity, (Nov., 1999) Vol. 67, No. 11, pp. 5552-5558. print.
CODEN: INFIBR. ISSN: 0019-9567.
DT Article
LA English
ED Entered STN: 19 Jan 2000
Last Updated on STN: 31 Dec 2001
AB **Mycobacterium** tuberculosis GroES was purified from culture filtrate, and its identity was confirmed by immunoblot analysis and N-terminal sequencing. Comparing the immunological recognition of native and recombinant GroES, we found that whereas native GroES elicited a strong proliferative response and release of gamma interferon-gamma by peripheral blood mononuclear cells from healthy tuberculin reactors, the recombinant protein failed to do so. The same difference in immunological recognition was observed in a mouse model of TB infection. Both the native and recombinant preparations were recognized by mice immunized with the recombinant protein. Biochemical characterization including sodium dodecyl sulfate-polyacrylamide gel electrophoresis, two-dimensional electrophoresis, and mass spectrometry analysis of both proteins demonstrated no differences between the native and recombinant forms of GroES except for the eight additional N-terminal amino acids derived from the fusion partner inrecombinant GroES. The recombinant fusion protein, still tagged with the maltose binding protein, was recognized by T cells isolated from TB-infected mice if mixed with culture filtrate before affinity purification on an amylose column. The maltose binding protein treated in the same manner as a control preparation was not recognized. Based on the data presented, we suggest that the association of biologically active molecules from culture filtrate with the chaperone GroES may be responsible for the observed T-cell recognition of the native preparation.

L14 ANSWER 27 OF 29 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 22
AN 1999:146249 BIOSIS
DN PREV199900146249
TI Immunological evaluation of novel **Mycobacterium** tuberculosis culture filtrate proteins.
AU **Weldingh, Karin**; Andersen, Peter [Reprint author]
CS Dep. TB Immunol., Statens Serum Inst., Artillerivej 5, DK-2300 Copenhagen S, Denmark
SO FEMS Immunology and Medical Microbiology, (Feb., 1999) Vol. 23, No. 2, pp. 159-164. print.
ISSN: 0928-8244.
DT Article
LA English
ED Entered STN: 13 Apr 1999
Last Updated on STN: 13 Apr 1999
AB Culture filtrate from **Mycobacterium** tuberculosis contains molecules which can promote protective immunity to tuberculosis in animal models. Six novel proteins in the region of 17-29 kDa were purified and investigated for their immunological relevance in M. tuberculosis-infected mice, guinea pigs and tuberculosis patients. The proteins CFP17, CFP21, CFP25 and CFP29 were all identified as strong interferon-gamma inducers in M. tuberculosis-infected mice and in tuberculosis patients. The CFP21 protein is encoded in the genomic region RD-2 which is deleted from a number of BCG strains and the diagnostic potential of this antigen was evaluated.

L14 ANSWER 28 OF 29 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1998:684968 CAPLUS
DN 129:300060
TI Novel antigens of **Mycobacterium** tuberculosis culture filtrates and the genes encoding and their diagnostic and prophylactic use
IN Andersen, Peter; Nielsen, Rikke; Rosenkrands, Ida; **Weldingh, Karin**; Rasmussen, Peter Birk; Oettinger, Thomas; Florio, Walter
PA Statens Serum Institut, Den.
SO PCT Int. Appl., 264 pp.
CODEN: PIXXD2
DT Patent

LA English
FAN.CNT 10

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9844119	A1	19981008	WO 1998-DK132	19980401
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	CA 2285625	AA	19981008	CA 1998-2285625	19980401
	AU 9868204	A1	19981022	AU 1998-68204	19980401
	AU 740545	B2	20011108		
	EP 972045	A1	20000119	EP 1998-913536	19980401
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2001515359	T2	20010918	JP 1998-541074	19980401
	EP 1449922	A2	20040825	EP 2004-76605	19980401
	EP 1449922	A3	20041117		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
	CA 2319380	AA	19990520	CA 1998-2319380	19981008
	WO 9924577	A1	19990520	WO 1998-DK438	19981008
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1029053	A1	20000823	EP 1998-947412	19981008
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	NZ 504951	A	20010629	NZ 1998-504951	19981008
	AU 750173	B2	20020711	AU 1998-94338	19981008
	EP 1484405	A1	20041208	EP 2004-77071	19981008
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
PRAI	DK 1997-376	A	19970402		
	US 1997-44624P	P	19970418		
	DK 1997-1277	A	19971110		
	US 1998-70488P	P	19980105		
	EP 1998-913536	A3	19980401		
	WO 1998-DK132	W	19980401		
	EP 1998-947412	A3	19981008		
	WO 1998-DK438	W	19981008		

AB Culture filtrate antigens of **Mycobacterium** tuberculosis are characterized and cDNAs encoding them are cloned. Some of the proteins are antigenic and suitable for use in vaccines and in diagnosis of infections, e.g. skin tests. A fusion protein of two of these antigens is a superior immunogen compared to the unfused proteins. Individual antigens from culture filtrates were identified by T cell mapping using T cells from memory immune mice. Genes for individual antigens were then cloned by screening a λgt11 expression vector with monoclonal antibodies. Manufacture of individual antigens with hexahistidine affinity labels is described.

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 29 OF 29 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 23
AN 1998:393332 BIOSIS
DN PREV199800393332
TI Two-dimensional electrophoresis for analysis of **Mycobacterium** tuberculosis culture filtrate and purification and characterization of six

novel proteins.
AU **Weldingh, Karin**; Rosenkrands, Ida; Jacobsen, Susanne; Rasmussen, Peter Birk; Elhay, Martin J.; Andersen, Peter [Reprint author]
CS Dep. TB Immunol., Statens Serum Inst., Artillerivej 5, DK-2300 Copenhagen, Denmark
SO Infection and Immunity, (Aug., 1998) Vol. 66, No. 8, pp. 3492-3500. print. CODEN: INFIBR. ISSN: 0019-9567.
DT Article
LA English
ED Entered STN: 10 Sep 1998
Last Updated on STN: 10 Sep 1998
AB Culture filtrate from **Mycobacterium** tuberculosis contains molecules which promote high levels of protective immunity in animal models of subunit vaccination against tuberculosis. We have used two-dimensional electrophoresis for analysis and purification of six novel M. tuberculosis culture filtrate proteins (CFPs): CFP17, CFP20, CFP21, CFP22, CFP25, and CFP28. The proteins were tested for recognition by M. tuberculosis-reactive memory cells from different strains of inbred mice and for their capacity to induce a skin test response in M. tuberculosis-infected guinea pigs. CFP17, CFP20, CFP21 and CFP25 induced both a high gamma interferon release and a strong delayed-type hypersensitivity response, and CFP21 was broadly recognized by different strains of inbred mice. N-terminal sequences were obtained for the six proteins, and the corresponding genes were identified in the Sanger M. tuberculosis genome database. In parallel we established a two-dimensional electrophoresis reference may of short-term culture filtrate components and mapped novel proteins as well as already-known CFP.

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=> e florio walter/au
E1            7     FLORIO VITO V/AU
E2           75     FLORIO W/AU
E3           38 --> FLORIO WALTER/AU
E4            1     FLORIOA TULLIO/AU
E5            5     FLORIOLI A/AU
E6            1     FLORIOLI A C/AU
E7            1     FLORIOLI G/AU
E8            3     FLORIOLLI R Y/AU
E9            2     FLORIOLLI RENEE Y/AU
E10          14     FLORION A/AU
E11           6     FLORION ANDRE/AU
E12           1     FLORIOS N S/AU

=> s e2-e3 and mycobact?
L15          90 ("FLORIO W"/AU OR "FLORIO WALTER"/AU) AND MYCOBACT?

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PROCESSING COMPLETED FOR L15
L16          20 DUP REM L15 (70 DUPLICATES REMOVED)

=> d bib ab 1-
YOU HAVE REQUESTED DATA FROM 20 ANSWERS - CONTINUE? Y/(N):y
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L16 ANSWER 1 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 1
AN 2006:135438 CAPLUS
TI Influence of culture medium on the resistance and response of **Mycobacterium** bovis BCG to reactive nitrogen intermediates
AU **Florio, Walter**; Batoni, Giovanna; Esin, Semih; Bottai, Daria; Maisetta, Giuseppantonio; Favilli, Flavia; Brancatisano, Franca L.; Campa, Mario
CS Dipartimento di Patologia Sperimentale, Biotecnologie Mediche, Infettivologia ed Epidemiologia, Universita di Pisa, Pisa, 56127, Italy
SO Microbes and Infection (2006), 8(2), 434-441
CODEN: MCINFS; ISSN: 1286-4579
PB Elsevier B.V.
DT Journal
LA English

AB The aim of the present work was to evaluate the influence of the culture medium on the resistance and response of **Mycobacterium** bovis BCG to reactive nitrogen intermediates, in vitro. BCG was grown in Sauton, Dubos or Middlebrook 7H9 medium and exposed to sodium nitroprusside (SNP) for up to 7 days. The percentage of bacilli that survived was significantly lower in Middlebrook 7H9 than in Sauton or Dubos medium. Addition of SNP to Middlebrook 7H9 caused an increase in the RedOx potential in either the absence or the presence of BCG, while addition of the compound to Sauton medium gave rise to an increase in the RedOx potential only in the absence of bacteria, whereas a decrease in the RedOx potential was observed in the presence of BCG. The resistance of BCG to SNP in the different media did not correlate with the concentration of peroxynitrite in culture supernatants. BCG grown in different media showed a differential protein expression pattern, as assessed by two-dimensional gel electrophoresis. Exposure of BCG to sub-lethal concns. of SNP in Middlebrook 7H9, but not in Sauton medium, revealed a differential expression of at least 38 protein species. Altogether these results demonstrate that the growth medium may have a remarkable influence on the resistance and the response of BCG to SNP and suggest that the different resistance of BCG in the two media is unlikely to be due to a differential antioxidant effect of the medium itself.
RE.CNT 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 2 OF 20 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
DUPLICATE 2
AN 2006:143057 BIOSIS
DN PREV200600146194
TI Human CD56(bright) CD56(dim) natural killer cell subsets respond differentially to direct stimulation with Mycobocterium bovis bacillus Calmette-Guerin.
AU Batoni, G. [Reprint Author]; Esin, S.; Favilli, F.; Pardini, M.; Bottai, D.; Maisetta, G.; **Florio, W.**; Campa, M.
CS Univ Pisa, Dipartimento Patol Sperimentale Biotecnol Med Inf, Via San Zeno 35-39, I-56127 Pisa, Italy
batoni@biomed.unipi.it
SO Scandinavian Journal of Immunology, (DEC 2005) Vol. 62, No. 6, pp. 498-506.
CODEN: SJIMAX. ISSN: 0300-9475.
DT Article
LA English
ED Entered STN: 22 Feb 2006
Last Updated on STN: 22 Feb 2006
AB **Mycobacterium** bovis bacillus Calmette-Guerin (BCG) is capable of directly stimulating several effector functions of human natural killer (NK) cells in the absence of interleukin-12 and professional antigen presenting cells. To assess the contribution of two main human NK-cell subsets (CD56(dim) and CD56(bright)) to the overall in vitro NK-cell response to BCG, peripheral blood mononuclear cells depleted of nylon wool-adherent cells or purified NK cells were stimulated with live BCG. By combining intranuclear bromodeoxyuridine (BrdU) staining and analysis of CD56 marker intensity, statistically higher percentages of BrdU' cells were found among the CD56(bright) subset than the CD56(dim) subset after 6 days of stimulation with BCG. Similarly, evaluation of intracellular interferon-gamma (IFN-gamma) revealed that CD56(bright) cells were those mainly involved in IFN-gamma production in response to BCG. In contrast, the CD56(dim) subset contained higher levels of perform and granzyme A, two key molecules for exocytosis-mediated cytotoxicity, than the CD56(bright) subset. Although 16-20-h stimulation with BCG did not substantially alter the expression of cytotoxic molecules(dim), by the two subsets, a decrease in perform content was observed in the CD56, but not in the CD56(bright) subset, following 4-h incubation with the NK-sensitive target K562 cell line. This decrease in perform content correlated with the induction by BCG-stimulated NK cells, of early markers of apoptosis on target cells to a greater extent than unstimulated cells suggesting a major role for the CD56(dim) subset in cytotoxic activity in response to BCG. Taken together, these results demonstrate that CD56(bright) and CD56(dim) human NK-cell subsets exert different functional activities in response to a live bacterial pathogen.

L16 ANSWER 3 OF 20 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
DUPLICATE 3
AN 2005:271995 BIOSIS
DN PREV200510062059
TI Disruption of the gene encoding for secretion antigen SA5K affects growth of **Mycobacterium** bovis bacillus Calmette-Guerin in human macrophages and in mice.
AU Bottai, Daria; Esin, Semih; Batoni, Giovanna [Reprint Author]; Pardini, Manuela; Maisetta, Giuseppantonio; Donati, Valentina; Favilli, Flavia; **Florio, Walter**; Campa, Mario
CS Univ Pisa, Dipartimento Patol Sperimentale Biotecnol Med Inf, Pisa, Italy
batoni@biomed.unipi.it
SO Research in Microbiology, (APR 2005) Vol. 156, No. 3, pp. 393-402.
CODEN: RMCREW. ISSN: 0923-2508.
DT Article
LA English
ED Entered STN: 21 Jul 2005
Last Updated on STN: 21 Jul 2005
AB An 8.3-kDa secretory antigen of **Mycobacterium** bovis bacillus Calmette-Guerin (BCG), called SA5K, was previously identified and characterized in our laboratory. Sequence analysis of the BCG sa5k gene, including the corresponding promoter region, showed that it is identical to the homologous gene in **Mycobacterium** tuberculosis (Rv1174c). No significant homology with other proteins was found and the physiologic role of SA5K for **mycobacteria** remains unknown. In the present study, a BCG mutant strain (BCGsa5k::aph) was constructed by allelic exchange involving the replacement of the sa5k gene with a kanamycin-inactivated copy. Mutant and parental strains showed similar growth rates in liquid medium, suggesting that the loss of the sa5k gene does not affect the in vitro growth of BCG. Nevertheless, BCGsa5k::aph showed a reduced ability to grow in human macrophages compared with the wild-type BCG, suggesting that SA5K is involved in intracellular survival/multiplication mechanisms. The mutant strain was also attenuated in vivo in a mouse infection model, showing impaired growth/survival in spleen and liver and fewer and smaller granulomatous lesions compared to the parental strain. Complementation of the mutation restored the parental phenotype. Taken together, results presented in this study suggest a role for SA5K in the growth capacity of BCG both in an intracellular milieu and in infected mice. (c) 2004 Elsevier SAS. All rights reserved.

L16 ANSWER 4 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 4
AN 2004:490265 CAPLUS
DN 141:52841
TI Cloning and characterization of genes encoding culture filtrate antigens involved in protective immunity to M. tuberculosis, and use thereof as vaccines and in diagnosis
IN Andersen, Peter; Skiot, Rikke; Oettinger, Thomas; Rasmussen, Peter Birk; Rosenkrands, Ida; Weldingh, Karin; **Florio, Walter**
PA Den.
SO U.S. Pat. Appl. Publ., 109 pp., Cont.-in-part of U.S. 6,641,814.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 10

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004115211	A1	20040617	US 2003-620246	20030715
	US 6641814	B1	20031104	US 1998-50739	19980330
	EP 1449922	A2	20040825	EP 2004-76605	19980401
	EP 1449922	A3	20041117		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
PRAI	DK 1997-376	A	19970402		
	US 1997-44624P	P	19970418		
	DK 1997-1277	A	19971110		
	US 1998-70488P	P	19980105		
	US 1998-50739	A2	19980330		

DK 1998-1281 A 19981008
EP 1998-913536 A3 19980401

AB The present invention is based on the identification and characterization of a number of M. tuberculosis derived antigens, isolated from culture filtrates of T cells from memory immune mice by T cell epitope mapping. The invention is directed to the polypeptides and immunol. active fragments thereof, the genes encoding them, immunol. compns. such as vaccines and skin test reagents containing the polypeptides. Another part of the invention is based on the surprising discovery that fusions between ESAT-6 and MPT59 are superior immunogens compared to each of the unfused proteins, resp. These antigens are suitable for use in vaccines and in diagnosis of infections.

L16 ANSWER 5 OF 20 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
DUPLICATE 5
AN 2004:300252 BIOSIS
DN PREV200400301569
TI Functional characterization of human natural killer cells responding to **Mycobacterium** bovis bacille Calmette-Guerin.
AU Esin, Semih [Reprint Author]; Batoni, Giovanna; Pardini, Manuela; Favilli, Flavia; Bottai, Daria; Maisetta, Giuseppantonio; **Florio, Walter**; Vanacore, Renayo; Wigzell, Hans; Campa, Mario
CS Dipartimento Patol Sperimentale Biotecnol Med Inf, Univ Pisa, Via S Zeno 35-39, I-56127, Pisa, Italy
esin@biomed.unipi.it
SO Immunology, (May 2004) Vol. 112, No. 1, pp. 143-152. print.
CODEN: IMMUAM. ISSN: 0019-2805.
DT Article
LA English
ED Entered STN: 30 Jun 2004
Last Updated on STN: 30 Jun 2004
AB The kinetics of activation and induction of several effector functions of human natural killer (NK) cells in response to **Mycobacterium** bovis bacille Calmette-Guerin (BCG) were investigated. Owing to the central role of monocytes/mactophages (MM) in the initiation and maintenance of the immune response to pathogens, two different experimental culture conditions were analysed. In the first, monocyte-depleted nylon wool non-adherent (NW) cells from healthy donors were stimulated with autologous MM preinfected with BCG (intracellular BCG). In the second, the NW cells were directly incubated with BCG, which was therefore extracellular. In the presence of MM, CD4+ T lymphocytes were the cell subset mainly expressing the activation marker, CD25, and proliferating with a peak after 7 days of culture. In contrast, in response to extracellular BCG, the peak of the proliferative response was observed after 6 days of stimulation, and CD56+ CD3- cells (NK cells) were the cell subset preferentially involved. Such proliferation of NK cells did not require a prior sensitization to **mycobacterial** antigens, and appeared to be dependent upon contact between cell populations and bacteria. Following stimulation with extracellular BCG, the majority of interferon-gamma (IFN-gamma)-producing cells were NK cells, with a peak IFN-gamma production at 24-30 hr. Interleukin (IL)-2 and IL-4 were not detectable in NK cellsor in CD3+ T lymphocytes at an), time tested. IL-12 was not detectable in the culture supernatant of NW cells stimulated with extracellular BCG. Compared to the non-stimulated NW cells, the NW cells incubated for 16-20 hr with BCG induced the highest levels of expression of apoptotic/death marker on the NK-sensitive K562 cell line. BCG also induced expression of the activation marker, CD25, and proliferation, IFN-gamma production and cytotoxic activity, on negatively selected CD56+ CD3- cells. Altogether, the results of this study demonstrate that extracellular **mycobacteria** activate several NK-cell functions and suggest a possible alternative mechanism of NK-cell activation as the first line of defence against **mycobacterial** infections.

L16 ANSWER 6 OF 20 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
DUPLICATE 6
AN 2004:5335 BIOSIS
DN PREV200400007544
TI Nucleic acids fragments and polypeptide fragments derived from M. tuberculosis.

AU Andersen, Peter [Inventor, Reprint Author]; Nielsen, Rikke [Inventor]; Oettinger, Thomas [Inventor]; Rasmussen, Peter Birk [Inventor]; Rosenkrands, Ida [Inventor]; Weldingh, Karin [Inventor]; **Florio, Walter** [Inventor]
CS Bronshoj, Denmark
ASSIGNEE: Statens Serum Institut, Copenhagen, Denmark
PI US 6641814 20031104
SO Official Gazette of the United States Patent and Trademark Office Patents, (Nov 4 2003) Vol. 1276, No. 1. http://www.uspto.gov/web/menu/patdata.html. e-file.
ISSN: 0098-1133 (ISSN print).
DT Patent
LA English
ED Entered STN: 17 Dec 2003
Last Updated on STN: 17 Dec 2003
AB The present invention is based on the identification and characterization of a number of M. tuberculosis derived novel proteins and protein fragments (SEQ ID NOs: 2, 4, 6, 8, 10, 12, 14, 16, 17-23, 42, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72-86, 88, 90, 92, 94, 141, 143, 145, 147, 149, 151, 153, and 168-171). The invention is directed to the polypeptides and immunologically active fragments thereof, the genes encoding them, immunological compositions such as vaccines and skin test reagents containing the polypeptides. Another part of the invention is based on the surprising discovery that fusions between ESAT-6 and MPT59 are superior immunogens compared to each of the unfused proteins, respectively.

L16 ANSWER 7 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 7
AN 2003:696302 CAPLUS
DN 139:229237
TI Protein and DNA sequences of antigens from **Mycobacterium** and uses in tuberculosis diagnosis and treatment
IN Andersen, Peter; Weldingh, Karin; Hansen, Christina Veggerby; **Florio, Walter**; Okkels, Li Mei Meng; Skjot, Rikke Louise Vinther; Rasmussen, Peter Birk
PA Statens Serum Institut, Den.
SO U.S. Pat. Appl. Publ., 53 pp., Cont.-in-part of U.S. Ser. No. 60,428.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 10

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003165525	A1	20030904	US 2002-138473	20020502
	US 6982085	B2	20060103		
	US 6641814	B1	20031104	US 1998-50739	19980330
	EP 1449922	A2	20040825	EP 2004-76605	19980401
	EP 1449922	A3	20041117		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
	US 2002094336	A1	20020718	US 2001-791171	20010220
PRAI	DK 1997-376	A	19970402		
	US 1997-44624P	P	19970418		
	DK 1997-1277	A	19971110		
	US 1998-70488P	P	19980105		
	US 1998-50739	A2	19980330		
	DK 1998-1281	A	19981008		
	US 2001-791171	B2	20010220		
	US 2002-60428	A2	20020129		
	EP 1998-913536	A3	19980401		

AB The present invention is based on the identification and characterization of 9 antigens, including Rv0652/CFP16, Rv2462c/TB51, Rv1984c/CFP21, Rv2185c/TB16, Rv1636/TB15A, Rv3451/CFP23, Rv3872/RD1-ORF3, Rv3354/CFP8A and Rv2623/TB32, from **Mycobacterium** tuberculosis. The invention is directed to the polypeptides and immunol. active fragments thereof, the genes encoding them, immunol. compns. such as diagnostic reagents containing the polypeptides. The invention related to diagnosing tuberculosis caused by virulent **mycobacteria**, e.g. by **Mycobacterium** tuberculosis, **Mycobacterium** africanum or **Mycobacterium**

bovis, in an animal, including a human being. The invention related to treating tuberculosis using antigens isolated from **Mycobacterium** tuberculosis.

L16 ANSWER 8 OF 20 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
DUPLICATE 8
AN 2003:330001 BIOSIS
DN PREV200300330001
TI Identification of novel proteins in culture filtrates of **Mycobacterium** bovis bacillus Calmette-Guerin in the isoelectric point range 6-11.
AU **Florio, Walter** [Reprint Author]; Batoni, Giovanna; Esin, Semih; Bottai, Daria; Maisetta, Giuseppantonio; Pardini, Manuela; Campa, Mario
CS Dipartimento di Patologia Sperimentale, Biotecnologie Mediche, Infettivologia ed Epidemiologia, Universita di Pisa, Via S. Zeno 35-39, I-56127, Pisa, Italy
florio@biomed.unipi.it
SO Proteomics, (May 2003) Vol. 3, No. 5, pp. 798-802. print.
ISSN: 1615-9853 (ISSN print).
DT Article
LA English
ED Entered STN: 16 Jul 2003
Last Updated on STN: 16 Jul 2003
AB Two-dimensional gel electrophoresis and mass spectrometry were used to identify proteins in the isoelectric point range 6-11 in culture filtrates of **Mycobacterium** bovis bacillus Calmette-Guerin (BCG). Twelve proteins were identified, three of which had not been described previously. The expression of the identified proteins was comparatively analyzed in culture filtrates of BCG in different growth phases and culture conditions. For some of these proteins, the relative protein abundance in the different culture filtrate preparations was significantly different. The differential expression of the identified proteins is discussed in relation to their putative localization and/or biological function.

L16 ANSWER 9 OF 20 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
DUPLICATE 9
AN 2003:575450 BIOSIS
DN PREV200300580948
TI Expression of SA5K, a secretion antigen of **Mycobacterium** tuberculosis, inside human macrophages and in sputum from tuberculosis patients.
AU Bottai, Daria; Batoni, Giovanna [Reprint Author]; Esin, Semih; Maisetta, Giuseppantonio; Pardini, Manuela; **Florio, Walter**; Rindi, Laura; Garzelli, Carlo; Campa, Mario
CS Dipartimento di Patologia Sperimentale, Biotecnologie Mediche, Infettivologia ed Epidemiologia, Universita degli Studi di Pisa, Via S. Zeno 35-39, 56127, Pisa, Italy
batoni@biomed.unipi.it
SO FEMS Microbiology Letters, (26 September 2003) Vol. 226, No. 2, pp. 229-235. print.
CODEN: FMLED7. ISSN: 0378-1097.
DT Article
LA English
ED Entered STN: 10 Dec 2003
Last Updated on STN: 10 Dec 2003
AB An 8.3 kDa protein (SA5K), secreted by **Mycobacterium** tuberculosis/**Mycobacterium** bovis bacillus Calmette-Guerin (BCG) in culture filtrate, has been previously described in our laboratory. In the present study, analysis of the distribution of SA5K gene (Rv1174c) among M. tuberculosis strains, isolated from a wide variety of clinical specimens, revealed that the gene is present in all clinical isolates analyzed (29/29). SA5K expression inside human macrophages infected with BCG was demonstrated by reverse transcription-polymerase chain reaction (RT-PCR) on RNA extracted from bacterial cells following 24 and 48 h of infection. In addition, in order to evaluate whether SA5K gene was also expressed at the site of infection in the lung, a nested RT-PCR assay was developed to detect specific mRNA in sputum samples collected from smear positive tuberculosis patients. SA5K mRNA was detected in all the samples

containing high numbers of tubercle bacilli demonstrating that the corresponding gene is expressed during the course of clinical infection.

L16 ANSWER 10 OF 20 USPATFULL on STN
AN 2002:178550 USPATFULL
TI Nucleic acid fragments and polypeptide fragments derived from M. tuberculosis
IN Andersen, Peter, Bronshoj, DENMARK
Nielsen, Rikke, Frederiksberg C, DENMARK
Oettinger, Thomas, Hellerup, DENMARK
Rasmussen, Peter Birk, Kobenhaven O, DENMARK
Rosenkrands, Ida, Kobenhaven O, DENMARK
Weldingh, Karin, Kobenhaven N, DENMARK
Florio, Walter, Frederiksberg C, DENMARK
PA STATENS SERUM INSTITUT (non-U.S. corporation)
PI US 2002094336 A1 20020718
AI US 2001-791171 A1 20010220 (9)
RLI Division of Ser. No. US 1998-50739, filed on 30 Mar 1998, PENDING
PRAI DK 1997-376 19970402
DK 1997-1277 19971110
US 1997-44624P 19970418 (60)
US 1998-70488P 19980105 (60)
DT Utility
FS APPLICATION
LREP FROMMER LAWRENCE & HAUG LLP, 745 FIFTH AVENUE, NEW YORK, NY, 10151
CLMN Number of Claims: 53
ECL Exemplary Claim: 1
DRWN 6 Drawing Page(s)
LN.CNT 6134
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is based on the identification and characterization of a number of M. tuberculosis derived novel proteins and protein fragments (SEQ ID NOs: 2, 4, 6, 8, 10, 12, 14, 16, 17-23, 42, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72-86, 88, 90, 92, 94, 141, 143, 145, 147, 149, 151, 153, and 168-171). The invention is directed to the polypeptides and immunologically active fragments thereof, the genes encoding them, immunological compositions such as vaccines and skin test reagents containing the polypeptides. Another part of the invention is based on the surprising discovery that fusions between ESAT-6 and MPT59 are superior immunogens compared to each of the unfused proteins, respectively.

L16 ANSWER 11 OF 20 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 10
AN 2002:448834 BIOSIS
DN PREV200200448834
TI Identification, molecular cloning, and evaluation of potential use of isocitrate dehydrogenase II of **Mycobacterium** bovis BCG in serodiagnosis of tuberculosis.
AU **Florio, W.** [Reprint author]; Bottai, D.; Batoni, G.; Esin, S.; Pardini, M.; Maisetta, G.; Campa, M.
CS Dipartimento di Patologia Sperimentale, Biotecnologie Mediche, Infettivologia ed Epidemiologia, Universita di Pisa, Via S. Zeno 35-39, 56127, Pisa, Italy
florio@biomed.unipi.it
SO Clinical and Diagnostic Laboratory Immunology, (July, 2002) Vol. 9, No. 4, pp. 846-851. print.
ISSN: 1071-412X.
DT Article
LA English
ED Entered STN: 21 Aug 2002
Last Updated on STN: 21 Aug 2002
AB Diagnosis of tuberculosis is time-consuming and requires infrastructures which are often not available in countries with high incidences of the disease. In the present study, an 82-kDa protein antigen was isolated by affinity chromatography and was identified by peptide mass fingerprinting as isocitrate dehydrogenase II, which is encoded by the icd2 gene of **Mycobacterium** bovis BCG. The icd2 gene of BCG was cloned by PCR, and the product of recombinant gene expression was purified and analyzed

by two-dimensional polyacrylamide gel electrophoresis. The recombinant protein, named rICD2, was tested for its recognition by immunoglobulin G (IgG) antibodies from the sera of 16 patients with tuberculosis (TB) and 23 healthy individuals by Western blotting. The results showed that rICD2 is recognized by IgG antibodies from the sera of all TB patients tested at serum dilutions of gtoreq1:640. At a serum dilution of 1:1,280, the sensitivity was 50% and the specificity was 86.9%. These results indicate that rICD2 might represent a candidate for use in a new assay for the serodiagnosis of TB.

L16 ANSWER 12 OF 20 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 11
AN 2002:440112 BIOSIS
DN PREV200200440112
TI Purification, biochemical characterization and immunogenicity of SA5K, a secretion antigen of **Mycobacterium** tuberculosis.
AU Batoni, G. [Reprint author]; Bottai, D.; Esin, S.; **Florio, W.**; Pardini, M.; Maisetta, G.; Freer, G.; Senesi, S.; Campa, M.
CS Dipartimento di Patologia Sperimentale, Biotecnologie Mediche, Infettivologia ed Epidemiologia, University of Pisa, Via S. Zeno 35-39, 56127, Pisa, Italy
batoni@biomed.unipi.it
SO Scandinavian Journal of Immunology, (July, 2002) Vol. 56, No. 1, pp. 43-51. print.
CODEN: SJIMAX. ISSN: 0300-9475.
DT Article
LA English
ED Entered STN: 14 Aug 2002
Last Updated on STN: 14 Aug 2002
AB **Mycobacterium** tuberculosis (MTB) secretory proteins are generally considered important antigens for immune protection against tuberculosis (TB). An 8.3-kDa secretory antigen of MTB and **Mycobacterium** bovis bacillus Calmette-Guerin (BCG), called SA5K, was recently identified and cloned in our laboratory. In this report, recombinant SA5K containing a histidine hexamer was expressed in Escherichia coli and purified to investigate its biochemical structure and to establish whether it was immunogenic for healthy sensitized and nonsensitized human donors and for patients infected with MTB. The protein nucleotide sequence was shown to be identical in BCG and in MTB. SA5K revealed an abnormal electrophoretic mobility in SDS-PAGE that made it look lighter than it is in Western blotting. While recombinant SA5K was poorly recognized by T lymphocytes from patients with pulmonary TB, it elicited proliferation of CD4+ T lymphocytes in the vast majority of healthy individuals sensitized to **mycobacterial** antigens by BCG vaccination. At a serum dilution of 1: 80, antibodies reacting against recombinant SA5K were found in 67% of sera from TB patients and in 73% of sera from healthy subjects. The percentage of positive subjects dropped at higher serum dilutions, but no significant difference in the recognition rate was observed between TB patients and healthy donors and between healthy vaccinated and nonvaccinated subjects. Owing to the high percentage of sera from healthy subjects who recognized SA5K in Western blotting, the antigen seems to exhibit, at least in the present form, a poor specificity for an employment for a serodiagnosis of TB.

L16 ANSWER 13 OF 20 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 12
AN 2002:73581 BIOSIS
DN PREV200200073581
TI Involvement of the **Mycobacterium** tuberculosis secreted antigen SA-5K in intracellular survival of recombinant **Mycobacterium** smegmatis.
AU Batoni, Giovanna [Reprint author]; Bottai, Daria; Maisetta, Giuseppantonio; Pardini, Manuela; Boschi, Antonella; **Florio, Walter**; Esin, Semih; Campa, Mario
CS Dipartimento di Patologia Sperimentale, Biotecnologie Mediche, Infettivologia ed Epidemiologia, University of Pisa, Via S. Zeno 35-39, Pisa, Italy
batoni@biomed.unipi.it
SO FEMS Microbiology Letters, (27 November, 2001) Vol. 205, No. 1, pp.

125-129. print.
CODEN: FMLED7. ISSN: 0378-1097.
DT Article
LA English
ED Entered STN: 16 Jan 2002
Last Updated on STN: 25 Feb 2002
AB A new protein (SA-5K) secreted in culture filtrates by **Mycobacterium** bovis, **Mycobacterium** tuberculosis, and few other **mycobacterial** species was previously identified and purified in our laboratory. In order to evaluate the putative role of SA-5K during intracellular **mycobacterial** growth, in the present study the SA-5K gene was cloned and expressed in **Mycobacterium** smegmatis, a rapid growing non-pathogenic **mycobacterium** which does not contain the gene for the protein. SA-5K expression in the THP-1 human macrophage cell line infected with the recombinant strain, (M. smegmatis-pROL5K) was demonstrated by RT-PCR on RNA extracted from bacterial cells following 24 and 48 h of infection. Intracellular SA5K expression was associated with a higher cfu increase of M. smegmatis-pROL5K in comparison to the negative control strain (M. smegmatis recombinant for the cloning vector) (P=0.01). No significant change in SA-5K synthesis by M. smegmatis-pROL5K was observed when the recombinant strain was grown in vitro in different stress conditions such as iron deprivation, pH 4.5, presence of nitric oxide or hydrogen peroxide. The results presented in this study suggest a possible role for SA-5K in intracellular survival of recombinant M. smegmatis, though the function of the protein remains unknown.

L16 ANSWER 14 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2000:260319 CAPLUS
DN 132:292711
TI Tb vaccine and diagnostic based on antigens from the **Mycobacterium** tuberculosis cell
IN Andersen, Peter; Weldingh, Karin; Hansen, Christina Veggerby; **Florio, Walter**; Okkels, Li Mei Meng; Skjot, Rikke Louise Vinther; Rosenkrands, Ida
PA Statens Serum Institut, Den.
SO PCT Int. Appl., 126 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 10

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000021983	A2	20000420	WO 1999-DK538	19991008
	WO 2000021983	A3	20001123		
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2346218	AA	20000420	CA 1999-2346218	19991008
	AU 9960784	A1	20000501	AU 1999-60784	19991008
	AU 766093	B2	20031009		
	EP 1117683	A2	20010725	EP 1999-947257	19991008
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, IE, SI, LT, LV, FI, RO				
PRAI	DK 1998-1281	A	19981008		
	US 1999-116673P	P	19990121		
	WO 1999-DK538	W	19991008		

AB The present invention relates to substantially pure polypeptides, which has a sequence identity of at least 80 % to an amino acid sequence disclosed, or which is a subsequence of at least 6 amino acids thereof, preferably a B- or T-cell epitope of the polypeptides disclosed. The polypeptide or the subsequence thereof has at least one of nine properties. The use of the disclosed polypeptides in medicine is disclosed, preferably as vaccine or diagnostic agents relating to virulent

Mycobacterium. The invention further relates to the nucleotide sequences disclosed and the nucleotide sequences encoding the disclosed polypeptides. Medical and non-medical use of the nucleotide sequences is disclosed.

L16 ANSWER 15 OF 20 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 13
AN 2000:271567 BIOSIS
DN PREV200000271567
TI Mapping and identification of **Mycobacterium** tuberculosis proteins by two-dimensional gel electrophoresis, microsequencing and immunodetection.
AU Rosenkrands, Ida; Weldingh, Karin; Jacobsen, Susanne; Hansen, Christina Veggerby; **Florio, Walter**; Gianetri, Isabella; Andersen, Peter [Reprint author]
CS Department of TB Immunology, Statens Serum Institute, 5 Artillerivej, DK-2300, Copenhagen S, Denmark
SO Electrophoresis, (March, 2000) Vol. 21, No. 5, pp. 935-948. print. CODEN: ELCTDN. ISSN: 0173-0835.
DT Article
LA English
ED Entered STN: 30 Jun 2000
Last Updated on STN: 5 Jan 2002
AB **Mycobacterium** tuberculosis is the infectious agent giving rise to human tuberculosis. The entire genome of M. tuberculosis, comprising approximately 4000 open reading frames, has been sequenced. The huge amount of information released from this project has facilitated proteome analysis of M. tuberculosis. Two-dimensional polyacrylamide gel electrophoresis (2-D PAGE) was applied to fractions derived from M. tuberculosis culture filtrate, cell wall, and cytosol, resulting in the resolution of 376, 413, and 395 spots, respectively, in silver-stained gels. By microsequencing and immunodetection, 38 culture filtrate proteins were identified and mapped, of which 12 were identified for the first time. In the same manner, 23 cell wall proteins and 19 cytosol proteins were identified and mapped, with 9 and 10, respectively, being novel proteins. One of the novel proteins was not predicted in the genome project, and for four of the identified proteins alternative start codons were suggested. Fourteen of the culture filtrate proteins were proposed to possess signal sequences. Seven of these proteins were microsequenced and the N-terminal sequences obtained confirmed the prediction. The data presented here are an important complement to the genetic information, and the established 2-D PAGE maps (also available at: www.ssi.dk/publichealth/tbimmun) provide a basis for comparative studies of protein expression.

L16 ANSWER 16 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1998:684968 CAPLUS
DN 129:300060
TI Novel antigens of **Mycobacterium** tuberculosis culture filtrates and the genes encoding and their diagnostic and prophylactic use
IN Andersen, Peter; Nielsen, Rikke; Rosenkrands, Ida; Weldingh, Karin; Rasmussen, Peter Birk; Oettinger, Thomas; **Florio, Walter**
PA Statens Serum Institut, Den.
SO PCT Int. Appl., 264 pp. CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 10

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9844119	A1	19981008	WO 1998-DK132	19980401

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

CA 2285625		AA	19981008	CA 1998-2285625	19980401
AU 9868204		A1	19981022	AU 1998-68204	19980401
AU 740545		B2	20011108		
EP 972045		A1	20000119	EP 1998-913536	19980401
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI					
JP 2001515359		T2	20010918	JP 1998-541074	19980401
EP 1449922		A2	20040825	EP 2004-76605	19980401
EP 1449922		A3	20041117		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY					
CA 2319380		AA	19990520	CA 1998-2319380	19981008
WO 9924577		A1	19990520	WO 1998-DK438	19981008
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW					
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG					
EP 1029053		A1	20000823	EP 1998-947412	19981008
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI					
NZ 504951		A	20010629	NZ 1998-504951	19981008
AU 750173		B2	20020711	AU 1998-94338	19981008
EP 1484405		A1	20041208	EP 2004-77071	19981008
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY					
PRAI DK 1997-376		A	19970402		
US 1997-44624P		P	19970418		
DK 1997-1277		A	19971110		
US 1998-70488P		P	19980105		
EP 1998-913536		A3	19980401		
WO 1998-DK132		W	19980401		
EP 1998-947412		A3	19981008		
WO 1998-DK438		W	19981008		

AB Culture filtrate antigens of **Mycobacterium** tuberculosis are characterized and cDNAs encoding them are cloned. Some of the proteins are antigenic and suitable for use in vaccines and in diagnosis of infections, e.g. skin tests. A fusion protein of two of these antigens is a superior immunogen compared to the unfused proteins. Individual antigens from culture filtrates were identified by T cell mapping using T cells from memory immune mice. Genes for individual antigens were then cloned by screening a λgt11 expression vector with monoclonal antibodies. Manufacture of individual antigens with hexahistidine affinity labels is described.

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 17 OF 20 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 14

AN 1998:318486 BIOSIS

DN PREV199800318486

TI Identification and molecular cloning of a novel secretion antigen from **Mycobacterium** tuberculosis and **Mycobacterium** bovis BCG.

AU Freer, G. [Reprint author]; **Florio, W.**; Dalla Casa, B.; Bottai, D.; Batoni, G.; Maisetta, G.; Senesi, S.; Campa, M.

CS Dip. Patol. Sper., Biotecnol. Med. Infettivol. Epidemiol., Univ. Studi Pisa, Via S. Zeno 35-39, 56127 Pisa, Italy

SO Research in Microbiology, (April, 1998) Vol. 149, No. 4, pp. 265-275. print.
CODEN: RMCREW. ISSN: 0923-2508.

DT Article

LA English

OS Genbank-AD000020

ED Entered STN: 22 Jul 1998
Last Updated on STN: 22 Jul 1998

AB A novel protein called SA-5K was identified in **Mycobacterium**

bovis BCG (BCG) short-term culture filtrates (CFs) by means of a recently described monoclonal antibody (mAb), L8D8. This protein had an apparent molecular mass (MM) of 5 kDa, as judged by Western blotting after sodium dodecyl sulphate-polyacrylamide gel electrophoresis in reducing conditions, and did not seem to contain any sugar or lipid substituents. In the present work, SA-SK was purified from BCG CFs by affinity chromatography. A protein that could be detected in Western blot but not by standard protein staining techniques was obtained. When SA-5K was subjected to aminoterminal sequencing, the 10 amino acids (aa) found matched the first 10-aa sequence deduced from an open reading frame (ORF) of M. tuberculosis. The ORF encodes a polypeptide, likely to include a signal for secretion, with an estimated MM of 8.3 kDa after signal peptide cleavage. The secretory nature of SA-5K was confirmed by the fact that it could only be detected in CFs, but not in other BCG subcellular fractions. After size exclusion chromatography, reactivity with mAb L8D8 was found to peak in the 45-50- and 14-16-kDa fractions. The latter MM was close to that estimated from the ORF of M. tuberculosis; implying that the 5-kDa antigen detected initially by Western blot in reducing conditions was a portion of SA-5K released after reduction of a disulphide bridge. The presence of the gene for SA-5K in BCG and its identity were confirmed by PCR (polymerase chain reaction) with specific primers and restriction analysis: the PCR product was slightly shorter in BCG than in M. tuberculosis. The gene coding for SA-5K was cloned by PCR from BCG and M. tuberculosis DNA and was expressed in Escherichia coli.

L16 ANSWER 18 OF 20 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 15
AN 1998:180827 BIOSIS
DN PREV199800180827
TI Characterization of antigens recognized by new monoclonal antibodies raised against culture filtrate proteins of **Mycobacterium** bovis bacillus Calmette-Guerin.
AU Freer, G. [Reprint author]; **Florio, W.**; Dalla Casa, B.; Castagna, B.; Maisetta, G.; Batoni, G.; Corsini, V.; Senesi, S.; Campa, M.
CS Dipartimento di Biomedicina Sperimentale, Infettiva e Pubblica, Universita degli Studi di Pisa, Via S. Zeno 35-39, 56127 Pisa, Italy
SO FEMS Immunology and Medical Microbiology, (Feb., 1998) Vol. 20, No. 2, pp. 129-138. print.
ISSN: 0928-8244.
DT Article
LA English
ED Entered STN: 20 Apr 1998
Last Updated on STN: 20 Apr 1998
AB Effective protection against **Mycobacteria** tuberculosis may be achieved in experimental animals by immunization with proteins secreted by tuberculous bacilli in the extracellular milieu during growth. In this study, monoclonal antibodies were raised against **Mycobacterium** bovis bacillus Calmette-Guerin (BCG) culture filtrate proteins or live BCG, in an attempt to identify novel **mycobacterial** secretion antigens: the localization of the antigens recognized by the monoclonal antibodies within the **mycobacterial** cell was studied and interspecies reactivity was also investigated. The monoclonal antibodies obtained recognized proteins of molecular mass ranging from 5 to 82 kDa, with a prevailing frequency in the 30 kDa region. Three of the monoclonal antibodies recognized proteins present only in culture filtrates. one reacted with a cytoplasmic antigen, while the remaining antibodies recognized components which were mainly associated with the cell wall and the cytoplasmic membrane. The chemical nature and possible identity of the antigens was checked. Three monoclonal antibodies are likely to react with novel **mycobacterial** antigens of 5, 42 and 82 kDa, respectively.

L16 ANSWER 19 OF 20 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 16
AN 1999:8557 BIOSIS
DN PREV199900008557
TI Analysis of the **Mycobacterium** bovis hsp60 promoter activity in recombinant **Mycobacterium** avium.
AU Batoni, Giovanna [Reprint author]; Maisetta, Giuseppantonio; **Florio,**

Walter; Freer, Giulia; Campa, Mario; Senesi, Sonia
CS Dip. Patol. Seprimentale Biotechnol. Med. Infettivol. Epidemiol., Univ. Pisa, Via S. Zeno 35/39, 56127 Pisa, Italy
SO FEMS Microbiology Letters, (Dec. 1, 1998) Vol. 169, No. 1, pp. 117-124. print.
CODEN: FMLED7. ISSN: 0378-1097.
DT Article
LA English
ED Entered STN: 11 Jan 1999
Last Updated on STN: 11 Jan 1999
AB A clinical isolate of **Mycobacterium** avium was transformed with a new shuttle plasmid containing the Escherichia coli betagalactosidase reporter gene under the control of the **Mycobacterium** bovis bacillus Calmette-Guerin (BCG) hsp60 promoter. betaGalactosidase activity was assayed spectrophotometrically in bacterial homogenates of the recombinant strain (M. avium::lacZ) and used for quantification of the hsp60 promoter strength in different conditions of extra- and intracellular growth. Very low levels of beta-galactosidase were recorded during the exponential phase of in vitro growth, while they increased progressively during the late exponential and stationary phases. A significant increase in enzyme activity was also induced in exponentially growing cells by shifting the incubation temperature from 37 to 45degree C, but not from 37 to 42degree C nor from 30 to 42degree C. No induction of the promoter was observed by adding hydrogen peroxide to the cultures. Finally, beta-galactosidase levels were quantified during growth of M. avium::lacZ in murine macrophages. Soon after phagocytosis and, to a lesser extent at 1, 5 and 7 days after infection, increased levels of bacterial beta-galactosidase were observed indicating an increment in transcriptional activity of hsp60 promoter both at early phases of infection and during the course of intracellular growth.

L16 ANSWER 20 OF 20 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 17
AN 1997:448540 BIOSIS
DN PREV199799747743
TI Comparative analysis of subcellular distribution of protein antigens in **Mycobacterium** bovis bacillus Calmette-Guerin.
AU **Florio, W.** [Reprint author]; Freer, G.; Dalla Casa, B.; Batoni, G.; Maisetta, G.; Senesi, S.; Campa, M.
CS Dipartimento di Biomedicina Sperimentale Infettiva e Pubblica, Universita degli Studi di Pisa, Via S.zeno 35-39, I-56127 Pisa, Italy
SO Canadian Journal of Microbiology, (1997) Vol. 43, No. 8, pp. 744-750.
CODEN: CJMIAZ. ISSN: 0008-4166.
DT Article
LA English
ED Entered STN: 27 Oct 1997
Last Updated on STN: 27 Oct 1997
AB The distribution of protein antigens in purified subcellular fractions of **Mycobacterium** bovis bacillus Calmette-Guerin (BCG) was comparatively analysed by sodium dodecyl sulfate - polyacrylamide gel electrophoresis and immunoblotting with specific monoclonal antibodies and polyclonal sera. The 19- and 38-kDa lipoproteins were mainly detected in the cell wall and cell membrane enriched fractions, and they were extracted from the former by Triton X-114 and Nonidet P-40. The 65-kDa heat-shock protein (hsp) was present in the cytoplasmic fraction and only trace amounts were found in the crude cell wall preparation. In contrast, the 14-kDa hsp was highly represented in the cell wall fraction, besides being present in cytoplasmic fraction. Both superoxide dismutase (SOD) and antigen 85 complex (Ag 85) were abundantly released in culture medium, and to a lower extent, they were present in the cell wall fraction; SOD was present in comparable amounts also in the cytoplasmic fraction, while Ag 85 was far less represented in the same. Sera from mice immunized with culture filtrate (CF) proteins of BCG recognized several antigens in CFs, which were not detectable in cell wall, cell membrane, and cytoplasmic fractions, indicating that CF proteins include secreted antigens which have not yet been identified.

=> s tuberculosis and (RD1-ORF3)

L17 9 TUBERCULOSIS AND (RD1-ORF3)

=> dup rem l17
PROCESSING COMPLETED FOR L17
L18 6 DUP REM L17 (3 DUPLICATES REMOVED)

=> d bib ab 1-
YOU HAVE REQUESTED DATA FROM 6 ANSWERS - CONTINUE? Y/(N):y

L18 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 1
AN 2004:490265 CAPLUS
DN 141:52841
TI Cloning and characterization of genes encoding culture filtrate antigens involved in protective immunity to M. **tuberculosis**, and use thereof as vaccines and in diagnosis
IN Andersen, Peter; Skiot, Rikke; Oettinger, Thomas; Rasmussen, Peter Birk; Rosenkrands, Ida; Weldingh, Karin; Florio, Walter
PA Den.
SO U.S. Pat. Appl. Publ., 109 pp., Cont.-in-part of U.S. 6,641,814.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 10

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004115211	A1	20040617	US 2003-620246	20030715
	US 6641814	B1	20031104	US 1998-50739	19980330
	EP 1449922	A2	20040825	EP 2004-76605	19980401
	EP 1449922	A3	20041117		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
PRAI	DK 1997-376	A	19970402		
	US 1997-44624P	P	19970418		
	DK 1997-1277	A	19971110		
	US 1998-70488P	P	19980105		
	US 1998-50739	A2	19980330		
	DK 1998-1281	A	19981008		
	EP 1998-913536	A3	19980401		

AB The present invention is based on the identification and characterization of a number of M. **tuberculosis** derived antigens, isolated from culture filtrates of T cells from memory immune mice by T cell epitope mapping. The invention is directed to the polypeptides and immunol. active fragments thereof, the genes encoding them, immunol. compns. such as vaccines and skin test reagents containing the polypeptides. Another part of the invention is based on the surprising discovery that fusions between ESAT-6 and MPT59 are superior immunogens compared to each of the unfused proteins, resp. These antigens are suitable for use in vaccines and in diagnosis of infections.

L18 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 2
AN 2003:696302 CAPLUS
DN 139:229237
TI Protein and DNA sequences of antigens from Mycobacterium and uses in **tuberculosis** diagnosis and treatment
IN Andersen, Peter; Weldingh, Karin; Hansen, Christina Veggerby; Florio, Walter; Okkels, Li Mei Meng; Skjot, Rikke Louise Vinther; Rasmussen, Peter Birk
PA Statens Serum Institut, Den.
SO U.S. Pat. Appl. Publ., 53 pp., Cont.-in-part of U.S. Ser. No. 60,428.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 10

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003165525	A1	20030904	US 2002-138473	20020502
	US 6982085	B2	20060103		
	US 6641814	B1	20031104	US 1998-50739	19980330

	EP 1449922	A2	20040825	EP 2004-76605	19980401
	EP 1449922	A3	20041117		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
	US 2002094336	A1	20020718	US 2001-791171	20010220
PRAI	DK 1997-376	A	19970402		
	US 1997-44624P	P	19970418		
	DK 1997-1277	A	19971110		
	US 1998-70488P	P	19980105		
	US 1998-50739	A2	19980330		
	DK 1998-1281	A	19981008		
	US 2001-791171	B2	20010220		
	US 2002-60428	A2	20020129		
	EP 1998-913536	A3	19980401		

AB The present invention is based on the identification and characterization of 9 antigens, including Rv0652/CFP16, Rv2462c/TB51, Rv1984c/CFP21, Rv2185c/TB16, Rv1636/TB15A, Rv3451/CFP23, Rv3872/**RD1**-**ORF3**, Rv3354/CFP8A and Rv2623/TB32, from Mycobacterium **tuberculosis**. The invention is directed to the polypeptides and immunol. active fragments thereof, the genes encoding them, immunol. compns. such as diagnostic reagents containing the polypeptides. The invention related to diagnosing **tuberculosis** caused by virulent mycobacteria, e.g. by Mycobacterium **tuberculosis**, Mycobacterium africanum or Mycobacterium bovis, in an animal, including a human being. The invention related to treating **tuberculosis** using antigens isolated from Mycobacterium **tuberculosis**.

L18 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 3
AN 2003:609858 CAPLUS
DN 139:163576
TI Mycobacterium **tuberculosis** antigens for diagnosis, prevention and treatment of infections caused by species of the **tuberculosis** complex
IN Andersen, Peter; Skjot, Rikke Louise Vinther
PA Den.
SO U.S. Pat. Appl. Publ., 135 pp., Cont.-in-part of U.S. Ser. No. 289,388, abandoned.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 10

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003147897	A1	20030807	US 2001-804980	20010313
	US 6991797	B2	20060131		
	WO 9501441	A1	19950112	WO 1994-DK273	19940701
	W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	EP 1508339	A1	20050223	EP 2004-77505	19940701
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI				
	US 5955077	A	19990921	US 1995-465640	19950605
	US 6641814	B1	20031104	US 1998-50739	19980330
	EP 1449922	A2	20040825	EP 2004-76605	19980401
	EP 1449922	A3	20041117		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
	US 2002094336	A1	20020718	US 2001-791171	20010220
	US 2004013685	A1	20040122	US 2001-872505	20010601
PRAI	DK 1993-798	A	19930702		
	US 1993-123182	B2	19930920		
	WO 1994-DK273	A2	19940701		
	US 1995-465640	A1	19950605		
	DK 1997-376	A	19970402		
	US 1997-44624P	P	19970418		
	DK 1997-1277	A	19971110		

US 1998-70488P P 19980105
US 1998-50739 A3 19980330
US 1998-246191 A2 19981230
US 1999-289388 B2 19990412
US 2001-791171 A2 20010220
EP 1994-919574 A3 19940701
EP 1998-913536 A3 19980401
DK 1999-1020 A 19990713
US 1999-144011P P 19990715
US 2000-615947 A2 20000713
WO 2000-DK398 A2 20000713
US 2001-804980 A2 20010313

AB The present invention is based on the identification and characterization of a number of novel M. **tuberculosis** derived proteins and protein fragments, e.g. TB10.3 (ORF7-1 or Rv3019c), TB10.4 (CFP7 or Rv0288) and TB12.9 (ORF7-2 or Rv3017c), ESAT-6, MPT64, CFP10, RD1-ORF5, RD1-ORF2, Rv1036, Ag85A, Ag85B, Ag85C, 19 kDa lipoprotein, MPT32, MPB59 and α-crystallin. The invention is directed to the polypeptides and immunol. active fragments thereof, the genes encoding them, immunol. compns. such as vaccines and skin test reagents containing the polypeptides.

L18 ANSWER 4 OF 6 USPATFULL on STN
AN 2003:291011 USPATFULL
TI Nucleic acids fragments and polypeptide fragments derived from M. **tuberculosis**
IN Andersen, Peter, Br.o slashed.nsh.o slashed.j, DENMARK
Nielsen, Rikke, Frederiksberg, DENMARK
Oettinger, Thomas, Hellerup, DENMARK
Rasmussen, Peter Birk, K.o slashed.benhaven, DENMARK
Rosenkrands, Ida, K.o slashed.benhaven, DENMARK
Weldingh, Karin, K.o slashed.benhaven, DENMARK
Florio, Walter, Frederiksberg, DENMARK
PA Statens Serum Institut, Copenhagen, DENMARK (non-U.S. corporation)
PI US 6641814 B1 20031104
AI US 1998-50739 19980330 (9)
PRAI DK 1997-376 19970402
US 1997-44624P 19970418 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Swartz, Rodney P
LREP Frommer Lawrence & Haug, Kowalski, Thomas J.
CLMN Number of Claims: 43
ECL Exemplary Claim: 1
DRWN 6 Drawing Figure(s); 6 Drawing Page(s)
LN.CNT 5870
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is based on the identification and characterization of a number of M. **tuberculosis** derived novel proteins and protein fragments (SEQ ID NOs: 2, 4, 6, 8, 10, 12, 14, 16, 17-23, 42, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72-86, 88, 90, 92, 94, 141, 143, 145, 147, 149, 151, 153, and 168-171). The invention is directed to the polypeptides and immunologically active fragments thereof, the genes encoding them, immunological compositions such as vaccines and skin test reagents containing the polypeptides. Another part of the invention is based on the surprising discovery that fusions between ESAT-6 and MPT59 are superior immunogens compared to each of the unfused proteins, respectively.

L18 ANSWER 5 OF 6 USPATFULL on STN
AN 2002:178550 USPATFULL
TI Nucleic acid fragments and polypeptide fragments derived from M. **tuberculosis**
IN Andersen, Peter, Bronshoj, DENMARK
Nielsen, Rikke, Frederiksberg C, DENMARK
Oettinger, Thomas, Hellerup, DENMARK
Rasmussen, Peter Birk, Kobenhaven O, DENMARK
Rosenkrands, Ida, Kobenhaven O, DENMARK
Weldingh, Karin, Kobenhaven N, DENMARK
Florio, Walter, Frederiksberg C, DENMARK

PA STATENS SERUM INSTITUT (non-U.S. corporation)
PI US 2002094336 A1 20020718
AI US 2001-791171 A1 20010220 (9)
RLI Division of Ser. No. US 1998-50739, filed on 30 Mar 1998, PENDING
PRAI DK 1997-376 19970402
DK 1997-1277 19971110
US 1997-44624P 19970418 (60)
US 1998-70488P 19980105 (60)
DT Utility
FS APPLICATION
LREP FROMMER LAWRENCE & HAUG LLP, 745 FIFTH AVENUE, NEW YORK, NY, 10151
CLMN Number of Claims: 53
ECL Exemplary Claim: 1
DRWN 6 Drawing Page(s)
LN.CNT 6134
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is based on the identification and characterization of a number of M. **tuberculosis** derived novel proteins and protein fragments (SEQ ID NOs: 2, 4, 6, 8, 10, 12, 14, 16, 17-23, 42, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72-86, 88, 90, 92, 94, 141, 143, 145, 147, 149, 151, 153, and 168-171). The invention is directed to the polypeptides and immunologically active fragments thereof, the genes encoding them, immunological compositions such as vaccines and skin test reagents containing the polypeptides. Another part of the invention is based on the surprising discovery that fusions between ESAT-6 and MPT59 are superior immunogens compared to each of the unfused proteins, respectively.

L18 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1998:684968 CAPLUS
DN 129:300060
TI Novel antigens of Mycobacterium **tuberculosis** culture filtrates and the genes encoding and their diagnostic and prophylactic use
IN Andersen, Peter; Nielsen, Rikke; Rosenkrands, Ida; Weldingh, Karin; Rasmussen, Peter Birk; Oettinger, Thomas; Florio, Walter
PA Statens Serum Institut, Den.
SO PCT Int. Appl., 264 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 10

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9844119	A1	19981008	WO 1998-DK132	19980401
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	CA 2285625	AA	19981008	CA 1998-2285625	19980401
	AU 9868204	A1	19981022	AU 1998-68204	19980401
	AU 740545	B2	20011108		
	EP 972045	A1	20000119	EP 1998-913536	19980401
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2001515359	T2	20010918	JP 1998-541074	19980401
	EP 1449922	A2	20040825	EP 2004-76605	19980401
	EP 1449922	A3	20041117		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
	CA 2319380	AA	19990520	CA 1998-2319380	19981008
	WO 9924577	A1	19990520	WO 1998-DK438	19981008
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR,				

TT, UA, UG, US, UZ, VN, YU, ZW
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

EP 1029053 A1 20000823 EP 1998-947412 19981008
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI

NZ 504951 A 20010629 NZ 1998-504951 19981008

AU 750173 B2 20020711 AU 1998-94338 19981008

EP 1484405 A1 20041208 EP 2004-77071 19981008
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY

PRAI DK 1997-376 A 19970402
US 1997-44624P P 19970418
DK 1997-1277 A 19971110
US 1998-70488P P 19980105
EP 1998-913536 A3 19980401
WO 1998-DK132 W 19980401
EP 1998-947412 A3 19981008
WO 1998-DK438 W 19981008

AB Culture filtrate antigens of Mycobacterium **tuberculosis** are characterized and cDNAs encoding them are cloned. Some of the proteins are antigenic and suitable for use in vaccines and in diagnosis of infections, e.g. skin tests. A fusion protein of two of these antigens is a superior immunogen compared to the unfused proteins. Individual antigens from culture filtrates were identified by T cell mapping using T cells from memory immune mice. Genes for individual antigens were then cloned by screening a λgt11 expression vector with monoclonal antibodies. Manufacture of individual antigens with hexahistidine affinity labels is described.

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT